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ABSTRACT

These four papers look into a system comprised of integrated financial and financing policies. Each paper examines a different aspect that is critical to alignment. "Financing in Sync: Aligning Fiscal Policy with State Objectives" (Dennis Jones), identifies distinct elements of financing policy, describes alternative forms of these elements, and illustrates the alignment of these policies in the context of alternative state priorities. "The Governance Context for State Policies on Appropriations, Tuition, and Financial Aid" (Kenneth Mortimer), examines the role of governance in the integration of financial aid and financing policies. "Informing the Integration of Tuition, Student Financial Aid, and State Appropriations Policies" (Paul Brinkman), discusses how data are pivotal in catalyzing commitment to the goal of policy alignment and structuring and monitoring policies to achieve this goal. "Information Sources for Answering Key Financing and Financial Aid Policy Questions: Current Practice and Future Possibilities" (Paul Lingenfelter, Hans L'Orange, Christopher Rasmussen, and Richard A. Voorhees) examines, from a data perspective, what states need to know in order to design and implement policies related to appropriations, tuition, and student financial assistance. (SM)

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CHANGING DIRECTION:

Integrating Higher Education
Financial Aid and Financing Policies

ED 481 765

Policies in Sync: Appropriations, Tuition, and Financial Aid for Higher Education

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A Compilation of Selected Papers

April 2003

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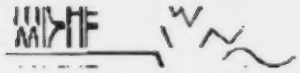
Policies in Sync: Appropriations, Tuition, and Financial Aid for Higher Education

A Compilation
of Commissioned Papers

April 2003

Dennis Jones
Kenneth P. Mortimer
Paul T. Brinkman
Paul E. Lingenfelter
Hans P. L'Orange
Christopher Rasmussen
Richard A. Voorhees

Supported by a grant from Lumina Foundation for Education



Western Interstate Commission for Higher Education

The Western Interstate Commission for Higher Education (WICHE) is a public, interstate agency established to promote and facilitate resource sharing, collaboration, and cooperative planning among the Western states and their colleges and universities. Member states are:

Alaska	Idaho	Oregon
Arizona	Montana	South Dakota
California	Nevada	Utah
Colorado	New Mexico	Washington
Hawaii	North Dakota	Wyoming

WIICHE's broad objectives are to:

- Strengthen educational opportunities for students through expanded access to programs,
- Assist policymakers in dealing with higher education and human resource issues through research and analysis, and
- Foster cooperative planning, especially that which targets the sharing of resources.

This publication was prepared by the Policy Analysis and Research Unit, which is involved in the research, analysis, and reporting of information on public policy issues of concern in the WICHE states.

This report is available free of charge online at http://www.wiche.edu/Policy/Lumina/papers.htm

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Introduction

During the past quarter century, few issues in higher education have captured and held the attention of state policymakers and higher education leaders as financial aid and financing. Year after year, the policymaking and education communities struggle with questions of how to meet growing needs through state allocations, how best to ensure shared and equitable responsibility for paying for higher education, and how best to use subsidies, such as financial aid, to expand access and opportunity.

Too often, these issues are dealt with as discreet questions rather than reflecting the interrelated nature of both higher education financial aid and finance policies, as well as the interconnected nature of state and federal efforts in these two areas. Few states are satisfied with their decisions on these issues, and so they continue to search for better solutions to these ever-present problems. The current environment and near-term future do not hold much promise for a reprieve from these challenges. The rapidly changing demographic makeup of our population, projected growth in higher education enrollments, stagnant state economies, and increasing turnover among policymakers all point to the need to rethink how we finance higher education and how we ensure that the most economically challenged among us do not experience decreased access and choice options for postsecondary education.

With these concerns in mind, the four papers included in this collection were commissioned as part of a larger project, *Changing Direction: Integrating Higher Education Financial Aid and Financing Policy*, at the Western Interstate Commission for Higher Education (WICHE). This initiative examines how to structure financial aid and financing policies and practices to maximize participation, access, and success for all students and to promote more informed decision-making on issues surrounding financial aid and financing in higher education. Over a multi-year period, the project is exploring the socioeconomic-political environment in order to foster the kinds of major changes needed in the near future at multiple levels—campus, system, state, and national—and to initiate and promote those changes through public policy.

The *Changing Direction* project provides a venue for policymakers and educators nationwide to critically examine strengths and weaknesses of public policies and develop new approaches by looking at emerging trends, their potential impact on higher education, and the policy implications related to issues of financial aid, finance, cost of education, and access. While this necessarily involves all sources of assistance and financing—federal, state, local, and institutional—the project focuses on state policies and practices. *Changing Direction* serves policymakers in the legislative and executive branches of state government and their staffs, higher education researchers, state executive agencies, governing and coordinating boards, educators, college and university leaders, and business and corporate leaders.

Considering recent advances in public policy and public administration and the increasing sophistication of both executive and legislative policymaking, it is difficult to understand why public higher education remains so fragmented today. The relationship between institutional appropriations, tuition, and financial aid in sustaining successful access to higher education is obvious to most. Yet virtually no states consider these policies as an integrated whole. At best, the interrelationship is considered as an afterthought. Institutional appropriations garner the lion's share of attention and are seldom seen as a key determinant of a state's access agenda. Yet without adequate resources, institutions cannot serve well the increasing demand for higher education, particularly from a difficult to serve clientele. Tuition has not traditionally been valued for its critical importance as a revenue source but rather is often considered primarily as a tool for sustaining affordability. And need-based financial aid is generally the afterthought, if it is a thought at all, despite research that demonstrates that student aid is the lynchpin to successfully financing access to success.

Furthermore, too often policymakers confuse the integration of policy with the control of policy. One key message of the *Changing Direction* project is that these three critical finance policies— appropriations, tuition, and financial aid—can be intentionally integrated, even if they are controlled by different policy actors. What is important is not who controls but what those who do control are thinking about when they make decisions. If appropriations are constrained, it may be reasonable for tuition levels to increase to help offset the lost revenues. But if tuition increases, need-based financial aid must increase, just to stay even in assuring broad access to higher education. It really is that simple. Yet seldom is this recognized or considered in today's policy environment. Through *Changing Direction*, states are examining new ways in which they can build greater trust and appreciation between different policy actors so that they can count on integrative policies to complement each other.

This compilation of papers is *Changing Direction's* initial look into a system comprised of integrated financial aid and financing policies and includes:

- *Financing in Sync: Aligning Fiscal Policy with State Objectives*
- *The Governance Context for State Policies on Appropriations, Tuition, and Financial Aid*
- *Informing the Integration of Tuition, Student Financial Aid, and State Appropriations Policies*
- *Information Sources for Answering Key Financing and Financial Aid Policy Questions: Current Practice and Future Possibilities*

Each paper examines a different aspect—a conceptual framework, governance, data as a tool to integrate policy, and what states need to know to design integrated policies—all of which are critical to this alignment.

The main purposes of Dennis Jones' paper "Financing in Sync: Aligning Fiscal Policy with State Objectives" are to identify the distinct elements of financing policy, describe alternative forms of these elements, and illustrate the alignment of these policies in the context of alternative state priorities. Financing policy—potentially the most powerful of the policy tools that states utilize to influence how institutions,

students, and employers behave in ways consistent with broader public purposes—often is not wielded effectively and focuses on means rather than ends. Jones provides a useful guide for policymakers to formulate financing policy that encourages educational outcomes that are consistent with the economic benefits and enhanced quality of life for a state's citizens.

In "The Governance Context for State Policies on Appropriations, Tuition, and Financial Aid," Kenneth Mortimer examines the role of governance in the integration of financial aid and financing policies. Attempts to generalize about state-level governance often lead to lengthy discussions about how states vary in their political practices, policies, and values. Mortimer points out that there are, however, patterns and principles of governance in the states that are useful in describing the range of political behaviors that prevail. To describe these behaviors, he identifies the issues at stake, the actors who are (or ought to be) involved, the nature of interaction between the various levels in the state—state system, institutional and intra-institutional—and the stages of the decision-making process where these three questions are to be resolved. Four basic questions form the core of the essay:

- What decisions are made about appropriations, tuition, and financial aid?
- Who makes these decisions?
- What beliefs or assumptions are evident when these decisions are made?
- What policy goals underlie these decisions?

After discussion of these four questions, Mortimer shows how they actually played out in one state, Hawai'i. He concludes with suggestions and raises issues to be resolved if the policy goal of a set of interrelated practices about appropriations, tuition, and financial aid is to be achieved.

Paul Brinkman's paper, "Informing the Integration of Tuition, Student Financial Aid, and State Appropriations Policies," focuses on how data are pivotal in catalyzing commitment to the goal of policy alignment and structuring and monitoring policies to achieve the goal. Brinkman recommends gathering a wide range of data to inform policy and suggests that the collection have four segments: contextual and background data, referential data, indicator data, and combined data for illustrative purposes. He provides specific examples of data and sources for each segment. For example, for "indicator data" he refers to home-state higher education performance measured over time and against performance elsewhere; these data are influential in building consensus around policy alignment or in shaping and monitoring policy. Brinkman lists several kinds of data relevant to various themes, such as access, attendance patterns, affordability, sticker price, price discounts, adequacy of institutional funding, and sharing the burden. He also underscores the importance of putting the indicators together to enhance their impact. He cites different ways of grouping indicators, such as the report card approach used in *Measuring Up 2002*, or a single table that shows performance on several indicators around a central issue. Brinkman concludes that maintaining a comprehensive data set is essential and knowing which data to use when and for what purpose is just as critical when the purpose is to inform policy discussions.

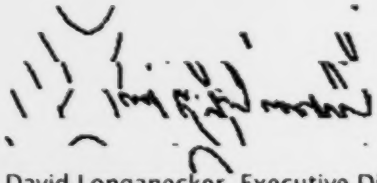
The fourth paper in this collection also addresses data issues but from a different viewpoint. Paul Lingenfelter, Hans L'Orange, Christopher Rasmussen, and Richard A. Voorhees examine, from a data perspective, what states need to know in order to design and implement policies related to appropriations, tuition, and student financial assistance. "Information Sources for Answering Key Financing and Financial Aid Policy Questions: Current Practice and Future Possibilities" targets the kinds of data and the sources of that data to address five questions:

- What is the capacity of the state to generate resources for higher education and other public services?
- What is the institutional capacity to provide quality postsecondary education to the state's citizens?
- What is the capacity of the state's citizens to contribute to the cost of successful participation in postsecondary education?
- What is the state achieving in terms of student participation and success?
- What is the payoff to the state from its investment in higher education?

The paper takes each of these questions, identifies a variety of data sources, and notes special considerations in responding to the questions. The authors conclude that while much of the data needed to speak to the questions currently exists in national, state, and institutional sources, there are gaps in both the data available and in the utilization of data to create better information for decision-making.

The *Changing Direction* project has been successful in large part because of WICHE's collaboration with the American Council on Education (ACE) and the State Higher Education Executive Officers (SHEEO). ACE's Center for Policy Analysis and SHEEO have long-standing reputations for high-quality work on a wide range of higher education issues, with a history of specializing in financial aid and financing issues. WICHE and its partners also collaborate closely with the National Conference of State Legislatures (NCSL), a national, bipartisan organization that brings even more visibility to the project and provides us with additional expertise concerning the state legislative role in creating integrated higher education policy. The cooperation between the organizations and NCSL's contributions are particularly valuable to this project.

WICHE is most grateful to Lumina Foundation for Education, a private, independent foundation that strives to help people reach their potential by expanding access and success in education beyond high school, for its generous support of this project. Without their assistance and encouragement, this project would not be possible.



David Longanecker, Executive Director, WICHE

Financing in Sync: Aligning Fiscal Policy with State Objectives

Dennis Jones

While the priorities and methods vary from state to state, state leaders hold common aims for the citizens of their states. They seek a high quality of life for these citizens. They want them to be safe in their homes and on the streets; they want them to breathe clean air and drink pure water; they want them to have ready access to affordable health care. They also seek economic stability and self-sufficiency for the citizens of the state; they want them to have the means to enjoy the benefits of a middle-class lifestyle.

The achievement of these desired ends is increasingly dependent on the education levels of the population. In order to reach the objectives of economic and societal well-being, more and more citizens must have at least some level of education beyond high school. Certainly, the kinds of jobs associated with advanced earning power require levels of knowledge and skill associated with postsecondary education. But the need for advanced education extends beyond the realm of economics. It also extends to the requirements of personal and civic life. Day-to-day life is becoming increasingly complicated—note the sophistication required to make informed selections among the available health care options or telecommunications providers. Similarly, a functioning democracy requires a citizenry able to make informed, personal decisions about such complicated topics as global warming, international trade, and energy production/conservation—and about selection of elected officials who must deal with these issues as matters of national policy. All these topics require a citizenry educated well beyond the levels of the populace of even a generation ago.

These conditions create situations in which states have a substantial interest in achieving:

- High rates of high school completion among students who have taken an academically rigorous curriculum.
- High levels of college participation among both recent high school graduates and adult learners.
- High rates of college degree completion.
- An economy that employs a high proportion of college graduates.

In pursuit of these objectives, states can (and do) employ a variety of the policy tools that are available to them. They create systems of higher education institutions and put in place governance structures and mechanisms designed to ensure that these institutions attend to those aspects of the public agenda which they can substantially influence. They establish performance goals and accountability mechanisms intended to focus attention on—and gain the achievement of—these objectives. At the moment, this policy tool is being applied primarily at the elementary and secondary levels, but momentum is gaining at the postsecondary level as well. They establish regulatory devices intended to ensure particular institutional behaviors of a sort believed to affect the ultimate attainment of these desired ends.

Finally, and most importantly, they use the power of the purse to influence institutions, students and employers to behave in ways consistent with the broader public purposes. Funding—with regard to both the levels and the methods by which resources are distributed—is the dominant policy tool used to affect higher education institutions and the outcomes they produce.

Financing policy has risen to this preeminent status for several reasons. First, it sends the strongest signals. Regulations can be bent (or ignored) and accountability requirements advantageously interpreted; their implementation is largely at institutional discretion. But the money flows get everyone's attention, and they are very much under the control of the providers, not the recipients. Secondly, finance decisions are revisited each time the state legislature meets, making them (potentially) a very flexible tool. Further, in many states there are structural reasons for this prominence. The only legislative committees that consistently deal with higher education issues in some states are the money committees. In some states, there are no substantive committees that regularly deal with governance, regulatory, or accountability devices as they specifically affect the nature and performance of the higher education enterprise. In some other states, the education committees handle both elementary/secondary and postsecondary issues; in these settings, K-12 education typically receives most if not all the attention. Finally, financing is the one policy that can be viewed as more carrot than stick; it can provide incentives in an environment in which the other tools are viewed as constraining and negative.

While financing policy is potentially the most potent of the policy tools, it is seldom wielded effectively. It tends to be applied with a focus on means (institutional well-being) without concomitant attention to the ends to be achieved. And it tends to be focused on institutions as recipients of funds to the exclusion of other beneficiaries (especially students) who could be more instrumental in achieving desired consequences. Or the policies are so diffuse that the cumulative affects are negated. Whether for lack of purposive design or absence of alignment of the components, states seldom gain the level of impact through use of finance policy that they might. The purposes of this paper are to:

- Identify the distinct elements of financing policy.
- Describe alternative forms of these elements.
- Illustrate the alignment of these policies in the context of alternative state priorities.

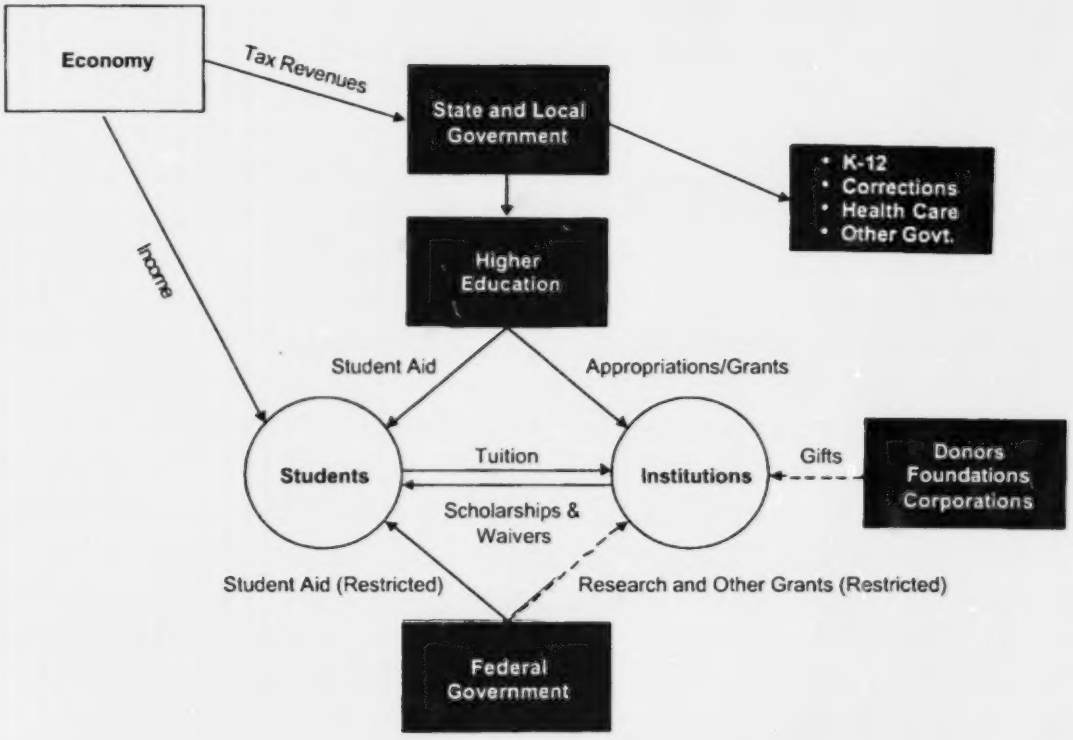
The intent is to provide guidance to the formulation of policy that encourages educational outcomes consistent with economic benefits and an enhanced quality of life for the citizens of a state.

The Elements of Financing Policy

Figure 1 describes the various entities that have a role in the financing of higher education and the nature of the primary relationships among them. This figure calls attention to the fact that most public institutions get the vast majority of their unrestricted operating revenues from only two sources—the state and students. The dotted-line connections between institutions and the federal government and private sources (individual donors, foundations, and corporations) acknowledge their roles as

important funders, while recognizing that they typically are *not* major providers of resources for the general operating support of institutions. Funds from these sources most often are provided to institutions with the stipulation that they be used only in ways specified by the donor—the funds are restricted. The exception is private gift money provided to institutions for (restricted) use in providing financial aid to students. These funds are included in the diagram as institutional aid to students.

Figure 1. Flow of Funds



With this bit of explanation, it becomes clear that state-level financing policy as it relates to funding higher education must focus on the following components:

1. Appropriations made directly to institutions for support of general operations—such appropriations may be made in two categories: base institutional funding for creation and maintenance of the educational capacity of the institution; or special purpose funding intended to promote utilization of this capacity in ways designed to achieve state priorities (performance or incentive funds). Appropriations for capital additions or renewals typically are made separately and are

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not included as part of the discussion in this paper.

2. Tuition and fee policy—establishing "sticker prices" for different categories of students as well as policies regarding a variety of fees.

3. State student financial aid policy—state policies regarding funds made available to students meeting certain criteria to reduce the price of college attendance to those students. These criteria may be based on economic factors affecting the student, need-based aid and other factors (typically excellence in academics or other pursuits), or merit-based aid.

4. Institutional student financial aid policy—institutional support to students for purposes of reducing price of attendance. This support may take the form of either direct payments to students (use of "real dollars" in the form of scholarships in which case the funds become expenditures by the institution) or of waivers of tuition or fees (in which case no "real money" changes hands and the institutions realize less net tuition income). As with state and student financial aid, allocations can be based on either need or merit, or a combination of the two.

In addition to the four areas over which states have direct control or strong influence, the importance of federal student financial aid policy must be recognized. While the states have little control over these policies, federal programs are so large that states must consider their provisions in order to make wise choices about the design of their own programs. By taking advantage of the federal programs (specifically the Pell need-based aid program), states can leverage their own programs. By ignoring the federal programs in the process of designing their own, states run a very high risk of reducing the cost-effectiveness of whatever programs they establish.

While the prescription is straightforward—formulate policy in the four areas (within the context of federal policy) in concert rather than independently—it is seldom followed. These policies are typically made independently. On occasion, appropriations and tuition decisions are made simultaneously, or tuition and student aid decisions. But very rarely are all these (appropriations, tuition, and student aid) considered as a package. And in most states, institutional financial aid is treated as something above, and separate from, those decisions more directly under the state's purview.

The reasons for this lack of congruence are quite simple. First, policy decisions in these areas tend to be made by different actors. State governments make the decisions about appropriations to institutions and to state student aid programs. Decisions about tuition levels are frequently made by institutional boards, although these decisions are reserved for the legislature in some states. Decisions about institutional aid are most frequently left to the institutions—although some states mandate the level and nature of fee waivers. Even when the state is involved in all four policies, integration of decisions is rare. Each policy area is considered separately (especially the student aid components), sometimes by different committees, and almost always at different times. And sequencing is important; the order of the decisions often affects the nature of the decisions.[1]

More importantly, the actors often have different objectives behind the decisions they are making. State decision makers are trying to control expenditures while improving broad access and achieving one or more of the priority objectives noted earlier. Institutions often have the objectives of maximizing revenues and achieving higher status among their institutional peers.

Different objectives and different roles in the decision processes often lead to decisions that have counterproductive results. As examples:

- In an effort to constrain expenses, states reduce student aid funding as well as institutional support at a time when institutions are rapidly raising tuitions in order to maintain revenue streams.
- Student financial aid is administered as fee waivers, and as a consequence makes the recipients ineligible for federal tax credits.
- States fail to intentionally integrate federal Pell grants into the state need formula.
- The design of many state merit-based student aid programs is such that they reduce the price of attendance to a set of students who would enroll in (and pay for) college anyway and often do not contribute to the broader agenda the states are pursuing (i.e. they do not yield improved participation, retention, or graduation rates or the employ students in the state after they graduate).
- Tuition levels are held well below what most students could afford and, in this process, institutions are deprived of the resources they need to provide students with a high-quality education.
- Absent good tuition policy, changes in tuition tend to be countercyclical with tuition increasing when students can least afford it and decreasing when they can most afford it. This has the potential of leading to political interference—pressure to hold tuition down in both good times and bad because there is no publicly understood rationale for not doing so.
- Conversely, participation and retention rates can be negatively affected when the price exceeds the ability (or willingness) of students to pay the bills.

The net effect when funding policies are not aligned and get out of balance is that one or more of the major participants in the process are put at a serious disadvantage: taxpayers pay more than their fair share; students find higher education becoming unaffordable and opt out (to their long-run detriment); or institutions fail to acquire the resources needed to adequately fulfill their missions. The bottom line is that the funds that are spent on higher education do not yield the results that they might if financing policy were more purposive and more integrated.

Effective financing policy should simultaneously meet several criteria:

- It should be reinforcing of and consistent with stated priorities (for instance, better high school graduation rates, improved college preparation and participation, enhanced retention and graduation rates, and more "educational capital" in the state's population). In states where the objectives are not clear, institutions have the luxury of establishing their own priorities, the sum of which are not necessarily in line with state needs.

- The institutional capacity necessary to meet the avowed priorities must be created and sustained. Policies that make it economically possible for students to attend college are of little use if the institutions in the state do not have the capacity to accommodate them.
- The contributions required must be within the means of those who must foot the bill. The combination of tuition and student financial aid policies must be such that price of attendance is kept affordable for all students. Simultaneously, the level of state support to higher education must be within the capacity of the state to raise taxes from various kinds of taxpayers.
- All parties in the equation must feel that they are being treated fairly and are getting (and giving) their fair share.
- The mechanisms must be transparent. The funding flows among the entities must be discernible so that decisions made by the different parties can be mutually reinforcing.

Achieving financing policy that meets all these criteria is by no means easy, but it is not impossible either. In the following sections, some basic principles are provided.

Factors to be Considered

The primary actors—the state, students, and institutions—in the financing policy formulation and implementation processes will judge the results in different ways, according to their own priorities. While it is risky to presume others' motives, the following likely are close to the mark.

States. From the perspective of states, financing policies have to:

- Result in maintenance of a system of educational institutions that have the capacity to accommodate demand and yield the desired educational outcomes.
- Promote explicitly the achievement of specified outcomes (these were listed in a prior section).
- Be affordable. Taxes and their allocation must reflect the tax capacity of the state and the priorities of the citizens. The realities of tax capacity and tax effort—combined with a realistic view of state priorities—may lead to conclusions that more tax revenues, not fewer, are in order.
- Be easily understood and defensible.

States have two direct tools available to them—direct appropriations to support institutional operations and allocations to students in the form of financial aid. The real trick is to balance these two and to design the specifics of each in ways that yield the most effective results.

In addition to direct decisions, states can influence, if not outright control, institutional decisions about tuition levels and the level and nature of institutional financial aid.

Students. Students judge finance policy according to:

- Affordability—Is net price (price of attendance less student aid from all sources) reasonable relative to their personal or family income? The important point here is that net price has to be viewed in terms of students' ability to pay. Wealthier students can afford more than

poor students, and tuition and financial aid policies should be tailored accordingly.

- Value—Are they buying access to something worth the price? A low price is no bargain if it buys access to a less than adequate education.

Institutions. The criteria from the perspective of institutions are quite different from those of the resource providers. They typically seek:

- Adequacy of funding: They want to be assured that the revenues available—primarily from students and the state—will be sufficient to allow them to fulfill their missions at high levels of quality. And because there are no upper bounds on aspirations for quality, it is difficult to achieve funding levels admitted to be adequate.

- Equity of funding: Are all institutions being treated fairly—not equally, but the same—relative to their different needs? If there are too few resources to meet all requirements, is the shortfall spread fairly among all?

- Stability of funding: Does the funding mechanisms yield results that are fairly predictable from year to year and that are free from large variations (especially on the down side)?

Since the objective is to create coherent state policy about the financing of higher education, it is useful to adopt the state perspective and investigate the basic elements of financing policy within the context of their decision-making domain.

The State Perspective

States allocate resources to higher education for essentially two purposes. First, they view higher education as being in the "general" public interest and seek to create and maintain a system of higher education that can respond to the demands of the state's citizens. This focus on building capacity has been, and continues to be, the dominant focus of state interest. It largely explains the institution-centric nature of most state higher education policy, finances and otherwise. For the most part, the creation and sustenance of a public system of higher education has been considered an end in its own right. More recently, some states have come to see higher education as a critical means to important state goals (of the kinds indicated earlier in the paper). In this context, states provide resources to higher education in amounts and ways intended to promote *utilization* of the created capacity in pursuit of specified state priorities. In sum, states fund higher education to *build core capacity* (general purpose funding) and *utilize capacity to achieve stated goals* (special purpose funding).

In pursuit of these objectives, states can focus their policy attention on either institutions (the likely choice) or students or both. This combination of policy objectives and policy focus can be described by the simple matrix presented in Figure 2.

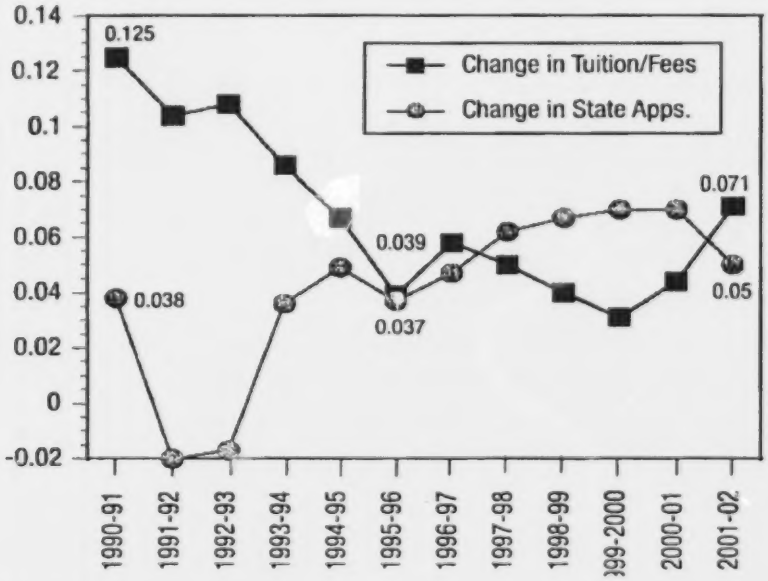
Figure 2. State Financing of Higher Education: The Policy Options

Policy Objectives	Policy Focus: Institutions	Policy Focus: Students
Capacity Building	– Base Plus – Formulas	Tuition and Aid Policy Focused on Revenue Generation
Capacity Utilization/ The Public Agenda	Performance Funding	Tuition and Aid Policy Focused on Attainment of Specified Outcomes – Need-Based – Merit-Based

As a way into the discussion, it is useful to view funding for capacity building separate from that for capacity utilization. In each case, the approaches to financing and the incentives associated with each are briefly described.

Funding for Capacity Building. As "owner-operators" of the state's public system of higher education, the states have considerable interest in ensuring an adequate level of funding for these institutions. As reflected in Figure 1, funding for institutions comes from the state through appropriations for general institutional support and from students through tuition. As a general rule, the higher the level of state support, the lower the amount of tuition revenue and vice versa. This relationship at the national level is revealed by the data in Figure 3, which is drawn from a recently released Institute for Higher Education Policy report, "Accounting for State Student Aid: How State Policy and Student Aid Connect."[2]

Figure 3. Change in Resident Undergraduate Student Charges and State Appropriations, Public Colleges and Universities (1990-1991 to 2001-2002)



Source: AASCU/NASULGC 2001

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The complete equation (again, as reflected in Figure 1) includes funding for student aid that serves to affect the price of attendance, recognizing that student aid comes from the federal government and the institutions themselves as well as from the state. The balancing act that states engage in requires them to ensure adequate funding for institutions while limiting taxpayer costs, insofar as is possible, and creating financial aid mechanisms that ensure that college attendance remains affordable for all citizens of the state. The second element is especially tricky, in that it requires consideration of federal and institutional student aid programs as well.

The question facing states is not just *how much* money to allocate to institutional support and student financial aid but also *how* that money flows—what are the decision rules that govern its distribution? These decision rules are critical, not just because of their effect on the bottom lines to all the parties at interest but because of the incentives for behavior buried in these allocation mechanisms. These incentives (or disincentives) apply to students as well as to institutions.

By far, the majority of funds that flow from states to higher education take the form of state appropriations to institutions (the upper left-hand box in Figure 2). While the specific mechanisms through which these funds are allocated are as numerous as the states themselves, at root they are of two general forms. First is the **base-plus** method, in which the prior year's funding is taken as the starting point and adjustments are made to reflect changes in cost-of-living and in demand levels, especially numbers of students served. This method is fundamentally a recipe for maintaining the status quo. Any incentives for changed behavior depend on the mechanisms by which "new money" is allocated. Since enrollment increases are the primary rationale for base funding enhancements (except for cost-of-living adjustments), there can be modest incentives for improving participation and retention rates. However, unless funding for growth is both predictable and reasonably generous, institutions may well eschew growth for a comfortable status quo. As a corollary, for there to be *any* incentives in base-plus approaches, there has to be some "plus" in the equation.

The generic alternative is a formula approach to the allocation of state resources to institutions. The general form is:

units of base factor 1	x	$/unit of base factor 1	+
units of base factor 2	x	$/unit of base factor 2	+
units of base factor *n*	x	$/unit of base factor *n*	=
			TOTAL

In these formulations, the typical base factors are such things as FTE students taught (with distinctions made for different course levels and disciplines), head-count students served, size of the physical plant to be maintained, and so on. Formulas do create incentives for growth, although not always in ways considered desirable or important in the broader context of state priorities. For example, as typically constructed, formulas create incentives for increased course enrollments rather than course completions and for expansion of a physical plant rather than for its efficient utilization. Because the weighting factors (the $/unit of instructional activity) are usually derived from historical data rather than established as intentional policy levers, formulas can unwittingly create incentives that yield unintended consequences: for example, mission creep or program proliferation prompted by an interest in teaching courses that are more richly rewarded in the formula (usually graduate rather

than undergraduate courses in the same field). There are ways to make formulas much more intentional and related to state priorities (for example, by rewarding course completion rather than course enrollment and by establishing weighting factors as a matter of policy, not history), but this would require a substantial deviation from common practice.

There is also a set of policies focused on students—tuition and student financial aid/fee waiver policies—that are intended specifically to yield the revenues necessary to provide an adequate level of funding for the state's public system of higher education. Among the decisions in this arena are:

- Base institutional tuition for undergraduate students: Since the very large proportion of public institution operating funds comes from state appropriations and tuition, revenue required from tuition often—intentionally or otherwise—is derived as:

  institutional requirement –
  state appropriation =
  required tuition revenue

  Tuition most likely is to be a derivative of appropriations when they are changing significantly. When appropriations have risen sharply, tuition level often are stabilized and, in some cases, reduced (the experience of Virginia and California in the mid-1990s is illustrative). When appropriations are sharply curtailed, tuition increases are the norm. The fact is that states (and institutions) "back into" tuition policy as a derivative of decisions about levels of state appropriations.

- Mandatory fees: Fees represent an additional source of revenues from students, the distinction being that the proceeds from fees are typically set aside for specified uses. Thus, fees become designated or restricted forms of tuition, whereas base tuition is typically unrestricted. Regardless of designation, the distinction is lost on the student; it all looks the same to the individual paying the bill. From the institutional point of view, these resources are essentially fungible. Use of restricted fees for the designated purpose often frees up resources to be allocated elsewhere. As a result, it is useful to think of fees as an additional form of tuition rather than as something separate.

- Out-of-state tuition: There are many instances in which institutions are deemed particularly attractive by out-of-state students. In such circumstances, institutions are in a position to charge what the market will bear. This creates conditions in which tuition revenues from out-of-state students can be considerably increased with no associated additional costs of instruction.

- Differential tuition: In this arrangement, institutions charge higher rates of tuition for enrollees in selected programs. This strategy works only when there is more demand for these programs than can be met. This, too, is a form of charging (up to) what the market will bear, allowing institutions to increase revenues with no additional costs of instruction. Within limits, this is often viewed positively by legislators and governors as well since these tuition revenues can offset requirements for additional taxpayer support.

- Scholarships and waivers: There is a class of aid that is allocated on the basis of neither need nor special talent. Such aid is a discount

to tuition, utilized only to boost net tuition revenues to the institution. A frequent application is to reduce out-of-state tuition to students living just across a nearby state line—effectively treating local students who happen to live across the border as in-state students.

All of the above are variables that can be adjusted in an attempt to increase the level of revenues flowing to institutions. There can be unintended consequences to these decisions, however, particularly as these decisions affect affordability of education to citizens of the state. In judging affordability, the determining factor is price of attendance (tuition plus other costs of attendance less scholarships and waivers) relative to ability to pay. Note that tuition levels, by themselves, are only one piece of the puzzle. Low tuition does not necessarily equate to affordability; the associated costs of attendance may push the overall price beyond some students' ability to pay. Similarly, high tuition does not preclude affordable education, but a good financial aid program is required in order to bridge the gap for some students.

It can be argued that high price of attendance discourages access. This is especially true among first-generation or low-income families, who are often averse to borrowing to pay for a college education. As an alternative, they work more, thus lowering their chances of successfully completing college. Low prices of attendance can improve participation by removing the economic barriers to college attendance. Economists might argue that cheap education has a potential downside—it can remove some of the incentive for timely completion of courses and degrees. If a low price of attendance translates into low net tuition revenues for institutions, it creates conditions under which colleges or universities either become overly dependent on the state as a source of revenue—and become particularly susceptible to the vicissitudes of the economic health of state government—or have inadequate resources.

The question of price of attendance becomes even more complicated when differential tuition rates come into play. Without the safety net of student aid, this strategy can limit programmatic access for low-income students. States employ the concept of differential tuition on a systemwide basis—frequently acting to minimize the price of attendance at the lowest cost institutions (frequently community colleges) while allowing the price of attendance at higher cost institutions to rise. Depending on enrollment patterns, this can moderate student aid costs statewide.

Funding for Capacity Utilization

While most attention has been given to funding for capacity building—primarily on direct appropriations to institutions—some states have taken steps designed to influence the use of this capacity in pursuit of key state goals. In this arena, student-oriented funding tends to be a larger piece of the action than institution-oriented funding, although the institutional component tends to have a clearer focus. The institutional component takes the form of performance funding: payment to institutions that is conditional on their achieving (or making demonstrable contributions to) identified state priorities. Such mechanisms can be tailored to specific priorities, for example, by rewarding institutions that:

- Recruit and enroll students from underrepresented groups (as defined by race, socioeconomic status, geographic origin, and so forth).
- Improve retention and graduation rates.
- Respond effectively to workforce development needs of in-state employers.
- Partner with local schools to improve graduation rates and learning outcomes of the K-12 system.

Theoretically, the design is straightforward. However, performance funding has yet to prove to be fully effective. This is often due, in part, to the poor specification of the objective to be pursued, as well as a weak understanding of its underlying rationale. It is also a function of the very limited resources typically allocated on this basis. The capacity-building/base-funding component is so large that it swamps the performance component. All institutional energy gets focused on maximizing base-funding revenues; if they do well there, the performance component is of little consequence.

The student-focused counterpart to performance funding is student financial aid of various forms. State student aid programs are typically dichotomized as either need-based or merit-based. It is perhaps more useful to treat them both as forms of aid designed to achieve particular—but different—objectives. So-called need-based aid is designed to ensure that students are not denied access because of their financial circumstances. The objective is to ensure that the poor as well as the wealthy can (and do) gain access to the state's public colleges and universities.

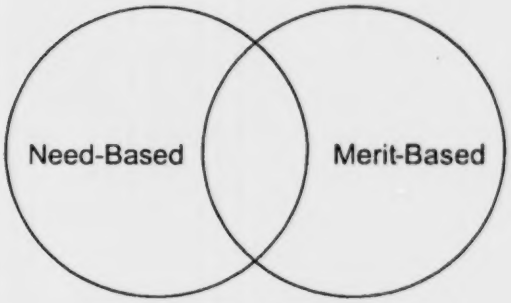
So-called merit-based student financial aid is a smaller—but much more rapidly growing—component of state funding for higher education. It is also a very popular component. Historically, it has been used to attract students having particular talents—in athletics, music, or other pursuits of particular importance to the state and/or institution. However, this component can be tailored in many different ways to address specific needs. One construct provides loan support to students in specific fields of study that are forgiven if graduates practice their profession in the state for a specified period of time. The much more prevalent version features programs modeled after the Georgia HOPE scholarship program in which students are rewarded for good academic performance in high school and maintenance of that level of performance in college (typically a B average). Their political popularity may in fact be justified; they may create incentives for improved academic performance in high school and remove psychological barriers to college attendance among students who previously considered college out of the question. Depending on the specifics, however, they may also:

- Go to students who would have attended college anyway.
- Reduce the price of attendance for students who can afford full price.
- Keep students in-state who would normally have attended an out-of-state institution. This is directly beneficial to the state only if these students remain in-state after graduation. It may be indirectly beneficial if excellence in the student body enhances the quality of the state's educational enterprise.

- Create conditions under which institutions can freely raise tuition.

In short, these programs are probably more effective in altering patterns of attendance than changing overall *rates* of attendance. They also serve to shift costs from students and parents to taxpayers. Even if they do not have these negatives, they should not be viewed as a *replacement* for need-based aid. Just as performance-based funding is an adjunct to core institutional funding, so is merit-based aid an adjunct to aid directed at ensuring affordability. It is probably best to think of these two different types of aid as illustrated in Figure 4.

Figure 4. Relationship between "Need-based" and "Merit-Based" Aid



This diagram indicates that typical need-based programs also apply to a subset of students who have a sought-after academic record or other talent and some merit-based aid goes to students who have real financial need. The design objective should probably be to achieve greater overlap—for example, by combining need- and merit-based factors.

Before leaving this section, it is important to quickly note the impact of institutional aid. First, it is predominantly merit-based aid. McPherson and Shapiro argue that, even when advertised as need-based, it has become increasingly merit-focused within the need-based component.[3] Thus, it may reshape attendance patterns across institutions, but is unlikely to substantially improve either participation or affordability. The exception is for those students who are both uniquely talented *and* poor. Some students, but seldom the majority, fall into this category. A larger problem is that such funds reallocate resources *within* a single institution rather than across institutions. It is likely that the largest, richest institutions also have the highest proportion of students who need no financial assistance while the poorest students attend institutions with the least capacity to provide institutional aid. Delegating the state responsibility for assuring affordability to the collective actions of individual institutions does not yield the same result as a statewide student assistance program.

When all is said and done, the requirement is not to choose one component of policy and ignore all others; rather the requirement is for policy alignment and integration. Only one piece needs to be out of sync to jeopardize the whole framework. If financial aid is too generous, it lends encouragement to unnecessarily large increases in price of attendance (tuition). If too limited or too focused on "merit," it can make participation unrealistic for low-income students. If tuition is too low, the state can leave federal money on the table—and without some form of need-based aid may still not ensure that overall price of attendance is affordable. Finally, unless the combination of appropriations and net tuition revenues is sufficient to generate adequate levels of institutional funding, students may be provided access to an inferior education.

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Aligning Financing Policies with State Objectives

In the previous section, various approaches to funding were discussed along with the kinds of behaviors that these different approaches typically elicit. This section starts with the objectives to be achieved and describes financing policies that are consistent with these ends. The listing of state objectives is the same as that enumerated in the introduction.

High School Completion; High Rates for Students Who Have Taken an Academically Rigorous Curriculum

Achievement of this objective is pursued almost entirely through measures associated with capacity utilization components of financing policy. As a consequence, there is an underlying expectation that basic capacity exists. As examples of ways in which performance funds could be allocated in support of this objective:

- Institutions could be rewarded for increasing dual enrollments and increasing the numbers of high school students in a "responsibility area" who successfully complete an advanced academic curriculum.
- Regional P-16 councils could be rewarded for the collective efforts of K-12 schools and colleges when an increasing proportion of students in the region are taught by teachers certified in the field; complete an academically rigorous curriculum; graduate from high school; or enter college.

Note that in this case, incentives have to be provided to an entity other than a higher education institution, since colleges acting unilaterally cannot have a significant effect on these outcomes. Only in partnership with K-12 schools can they impact this set of desired outcomes.

College Participation: High Levels for Recent High School Graduates and Adult Learners

The strategies for accomplishing this objective are more complex and involve both capacity-building and capacity-utilization components of financing policy. Key elements of the strategy include the following.

- Ensure that there is sufficient capacity to accommodate the desired levels of demand through state appropriations and tuition revenue. The nature of this capacity needs considerable deliberation, as it may consist of the creation of learning centers and distance delivery capacity in addition to (or in place of) enhancing capacity at existing institutions. The obvious point is that participation rates cannot be improved if access is denied for lack of either basic capacity or appropriate capacity (that is, the excess capacity is in the wrong place or of the wrong kind). It should be noted that capacity can be expanded by contracting (or making other financial arrangements) with either independent or out-of-state institutions to provide access to students who would otherwise be denied. Arrangements that are intentional and developed as a matter of state policy—such as the student exchange programs operated by WICHE and other regional compacts—can be very cost-effective, particularly in episodic or exceptional demand cycles.
- Ensure affordability is maintained for low-income students via a combination of tuition and financial aid policies. Financial aid for part-time students must be a consideration if

improving participation of adult learners is a consideration. Further, if capacity is an issue, financial aid for students attending private institutions should be considered.

- Align performance funding with this objective. There are variations on this theme. For example, institutions can be rewarded for increasing: the number of students from underrepresented groups (race, SES, county of origin) enrolled; or the level of contract education services provided to employers.

- Create features in the base funding component that give institutions incentives to enroll underrepresented groups. If base-plus funding is the mechanism, the enrollment growth numbers can be adjusted by weighting additional enrollment of some kinds of students more heavily than others. The same idea can be applied in formula funding states.

High Rates of Retention and Degree Completion

There is a wide range of potential tools that can be employed to encourage both students and institutions to put a higher priority on degree completion. They cut across all quadrants of the diagram in Figure 2. Among the elements are:

- Ensuring that limited capacity is not a barrier to successful progress. At the institutional level, this means, for example, ensuring that core lower-division courses have enough sections so that no students are turned away. At the system level, it means ensuring that there are sufficient slots in four-year institutions to accommodate community college transfers as well as native freshmen.

- Ensuring that affordability is maintained and that net price of attendance does not create an economic barrier to continued enrollment.

- Creating incentives for institutional attention to this objective, in several forms. Performance funds can be allocated to institutions that improve (or maintain high) retention and graduation rates. A more radical possibility is to count only course completions rather than course enrollments in calculating base funding for institutions—an idea nowhere embraced in the U.S., but in practice in the U.K. It must also be recognized that this is not necessarily the answer; high course completion rates may not translate into similarly high rates of program completion.

- Creating incentives for completion focused on students as well as on institutions. Performance requirements can be built into all forms of student aid, including need-based aid. As an alternative, institutional performance funding programs can be designed in such a way that funds are shared by institution and students (for example, students who enter as "at-risk" students receive a cash rebate at time of program completion).

There are many ways to configure finance policy in this arena. The necessity is that the objective be clear and that the incentives in the various mechanisms be consistent and lead in the intended direction.

Educational Attainment and Employability: Economy Employs High Proportion of College Grads With High Levels of Education Attainment

In many ways this objective depends more on finance policy as it aligns with economic development than with higher education. Educational institutions can accomplish the prior three goals in states that have economies incapable of absorbing the graduate. The result is a mass out-migration of highly educated citizens. In this environment, the challenge to higher education is to effect steps designed to diversify and expand the economy of the state. In some cases this may be a capacity question—do the institutions have the wherewithal to provide entrepreneurship programs or to compete for research funding that has the potential for economic development spin-offs?

In more cases, such benefits are prompted through performance funding mechanisms of various kinds. As an example, institutions can be rewarded for:

- Increased employment in spin-off companies.
- Increased levels of business and industry training.
- Increasing graduates of selected fields who remain in the state for at least "x" years.

A more direct incentive is to allocate a fixed percent of state revenues (or revenues from a particular source) to higher education. This provides a direct link between an improved economy and benefits to higher education.

Affordability

The notion of affordability has run through all the prior discussions. It is not an end unto itself, but it is a linchpin to the real ends that the state deems most important. The other objectives are unlikely to be achieved if substantial portions of the state's population cannot afford to go to college. The available options and some comments about each are listed below.

- Low prices of attendance. This avenue places a substantial burden on taxpayers and subsidizes the high proportion of students who could afford to pay more. It removes the economic barrier to access. At the same time, it provides no impetus to high performance and timely completion.
- Need-based financial aid. Need-based grants improve affordability for low-income students. As a consequence they remove economic barriers to participation. Their presence allows institutions to raise the price of attendance. This is not necessarily bad; the result may be an increase in net tuition revenue that assures availability of needed capacity without a diminution of affordability. Without special design features, typical need-based programs provide no incentives for high performance, retention, or completion.
- Merit-based student financial aid. As noted earlier in the paper, broad-brush merit aid programs typically channel resources to students who do not have financial need. They are devices for channeling students to particular (types of) institutions rather than enhancing participation by students who otherwise would not attend. Their provisions can create incentives for higher performance since they usually require maintenance of a B average for continuation. This feature, however, may discourage students from some of the more challenging academic pursuits.

This approach, if widespread, can encourage institutions to raise tuition, a particularly unfortunate consequence if need-based aid is inadequate to maintain an affordable price of attendance for students who do not qualify for merit aid.

Also as noted earlier in the paper, it is possible to narrowly tailor such programs to achieve particular manpower development and employment objectives. Such narrowly construed problems seldom require heavy financial investments and do not provide a substantial impetus to increased tuition levels. As a consequence, the negative implications for need-based programs are smaller.

- **Loans.** Loans are an alternative form of self-help rather than a form of aid. If loans are used as a replacement for work—at least work beyond 15-20 hours a week, the level at which work becomes an obstacle to successful retention and completion—they may be a positive factor. Because most students who drop out do so early in their college careers, reliance on loans at that stage may be problematic; it may create conditions in which there is a high likelihood that they will acquire debt but not a degree—the worst of all circumstances. Loans make more sense in an academic context if they are used to fund students' participation after they have developed a successful academic track record.

  There is much conventional wisdom, but not a lot of research, that indicates that the necessity to rely on loans dissuades participation of some groups, particularly low-income students and students of certain cultures. If the alternative is increased self-help through work, the ultimate state objective of retention, completion, and entrance into high-end employment is unlikely to be achieved.

- **Work-study.** Work-study is the largely forgotten form of financial aid. Like loans, it is a form of self-help rather than true aid. However, it can be an important "performance enhancer" if it serves to focus work time on meaningful, academically related tasks rather than unrelated tasks. Ways of linking work-study funding to more meaningful jobs inside the institutions and in places of employment where students can engage in internships and other forms of work related to their academic fields is an avenue that deserves much more attention than it has heretofore received.

Conclusions

This paper has outlined the broad array of financing options—both institution focused and student focused—available to states. Hopefully, it has led the reader to the conclusion that there is no single right answer. Design of funding policy depends in a very substantial way on a state's circumstances and its agenda for change and improvement. But generic rules hold. Cost-effective policy requires:

- Clear understanding of priorities to be pursued.
- Creation and maintenance of the capacity that allows pursuit of these goals.
- Careful alignment of funding policies dealing with appropriations for institutional support, tuition, and appropriations for student financial aid (recognizing the involvement of both the federal government and institutions in the latter).

Only if these policies are structured in such a way that they are mutually reinforcing around a common objective (or related set of objectives) will their full benefits be realized.

Endnotes

1. Kenneth P. Mortimer, "The Governance Context for State Policies on Appropriations, Tuition, and Financial Aid," *Policies in Sync: Appropriations, Tuition, and Financial Aid for Higher Education* (Boulder, CO: Western Interstate Commission for Higher Education, 2003).
2. Institute for Higher Education Policy, *Accounting for State Student Aid: How State Policy and Student Aid Connect* (Washington, DC: IHEP, 2003), 2.
3. Michael S. McPherson and Morton Owen Schapiro, "The Blurring Line Between Merit and Need in Financial Aid," *Change*, May/April (2002).

Dennis Jones is President of the National Center for Higher Education Management Systems (NCHEMS). A member of the staff since 1969, Dennis is widely recognized for his work in such areas as state and institutional approaches to budgeting and resource allocation, strategic planning, educational needs assessment, faculty workload and productivity, information for strategic decision-making, and the development of educational indicators. Dennis has written many monographs and articles on these topics, has presented his work at many regional, national, and international conferences, and has consulted with hundreds of institutions and state higher education agencies on management issues of all kinds. Prior to joining NCHEMS, Dennis served as an administrator (in business and in institutional planning) at Rensselaer Polytechnic Institute. He received his graduate and undergraduate degree from that institution in the field of engineering management.

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The Governance Context for State Policies on Appropriations, Tuition, and Financial Aid

Kenneth P. Mortimer

Attempts to generalize about state-level governance often lead to lengthy discussions about how the states vary in their political practices, policies, and values. There are, however, patterns and principles of governance in the states that are useful in describing the range of political behaviors that prevail.

In order to describe these behaviors, it is useful to identify the issues at stake, the actors who are (or ought to be) involved, the nature of interaction between the various levels in the state (state system, institutional and intra-institutional), and the stages of the decision-making process where these three questions are to be resolved.

This essay establishes the issues to be discussed as state-level appropriations for postsecondary education, tuition, and state financial aid programs. It describes the prevailing practices and policies on these issues, the different actors who are at the table, and the general goals/achievements/results being sought. Four basic questions form the core of the essay.

- What decisions are made about appropriations, tuition, and financial aid (ATFA)?
- Who makes these decisions?
- What beliefs or assumptions are evident when these decisions are made?
- What policy goals underlie these decisions?

After discussion of these four questions, a major section of the essay will show how they actually played out in one state—Hawai'i. This will give specific context for generalizations found in the literature and in this paper. As president of the University of Hawai'i from 1993 through 2001, I was a major participant in the events described.

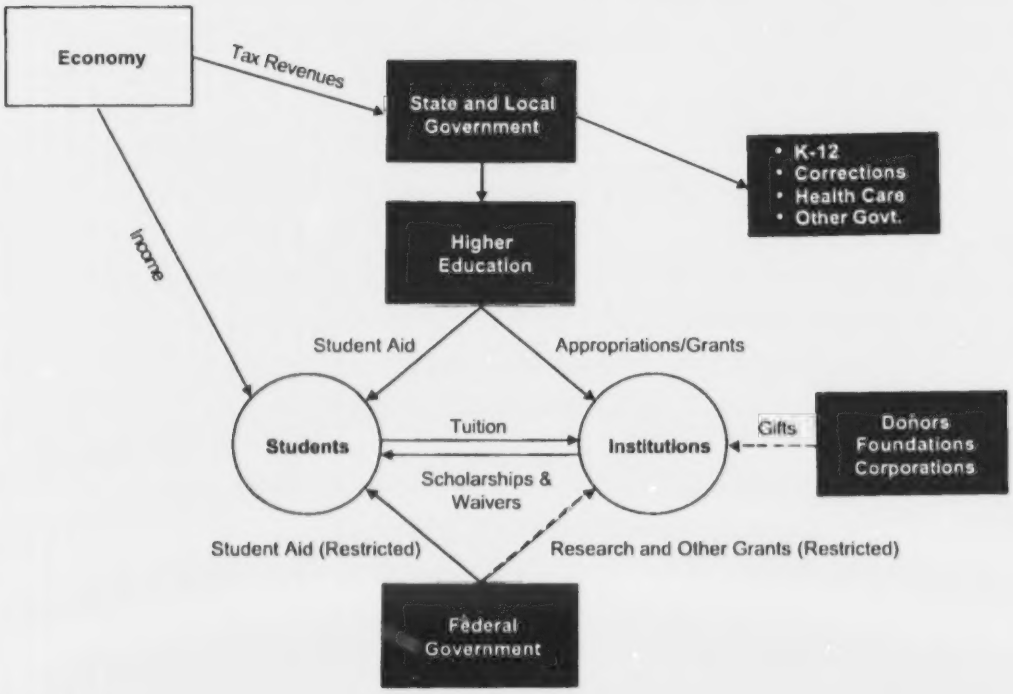
A final section of the essay makes suggestions and raises issues to be resolved if the policy goal of a set of interrelated practices about ATFA is to be achieved.

What Decisions Are Made About ATFA?

Appropriations

In his essay on finance, Dennis Jones identifies the flow of funds that make up financing policy.[1] A brief look at Figure 1 helps fix attention on these elements.

Figure 1. Flow of Funds



Appropriations decisions cannot be separated from those made about the entire state budget. As postsecondary education finishes the 2003 legislative sessions, state revenues are declining and costs are rising.

In a November 2002 fiscal survey of the states, the National Association of State Budget Officers reports:

> In fiscal 2002, 26 states reduced that budget gap by enacting across the board cuts and using rainy day funds, 15 states laid-off employees, five states used early retirement, 13 states reorganized programs, and 31 states used a variety of other methods. This trend will continue in fiscal 2003. Many of these budget balancing actions are one time only and cannot be used again.
>
> Higher education is a declining priority in state appropriations. Higher education spending as a percent of total state spending is projected to decline from 11.4 percent in fiscal 2002 to about 11 percent in fiscal 2003. In addition, other aspects of state budgets are rising much more rapidly. Medicare costs spending grew 13.2 percent in fiscal 2002, the fastest rate of growth since 1992, and spending on other social priorities (crime control, welfare, etc.) emphasizes the situation.[2]

For those interested in lowering public college tuition, economic recession is bad news. According to the National Center for Public Policy and Higher Education:

> The steepest tuition increases in public higher education have been imposed during recessions, when students and families (particularly those from the lowest income groups) are least able to pay.

During good economic times, state appropriations to colleges and universities tend to rise disproportionately to appropriations for other (state) functions, in the words of Harold Hovey, a prominent expert of public finance. During economic downturns, on the other hand,

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appropriations to higher education are often the "balance wheel in state finance," absorbing disproportionately larger cuts than other state-funded services.[3]

A further erosion, which Jane Wellman calls the "double whammy," exacerbates higher education's prospects:

> State revenue shortfalls are resulting in cuts for higher education; the baby-boom echo is entering college; myriad immigrants and first-generation college students are now seeking higher education; and millions of current workers need to upgrade their skills. Thus, a double whammy: the challenge of doing more for many more with much less. And the challenge of accomplishing all that while maintaining the integrity and value of the world's finest higher education.[4]

All states have processes for reviewing and approving operating and capital appropriations for higher education, but these processes vary immensely. Some governors and legislatures delegate authority to a postsecondary education agency while others maintain more direct control. State officials almost always retain the authority to appropriate funds; the delegation comes variously on how to spend the monies appropriated.

In discussions of governance, it is common to contrast those states with statewide governing boards that have line responsibility for all institutions in the state with coordinating boards that have various authority over institutional matters. Approximately 24 states have governing boards, 24 have coordinating boards, and two have planning agencies.

There are at least four separate policy roles that characterize attempts by the state to shape the balance between the professional values of higher education with those of the market.

- *Provider* states tend to subsidize higher education with little regard for the market.
- *Regulator* states attempt to specify relations between higher education and the market by controlling user charges and constraining institutional discretion in the use of appropriations.
- *Consumer* advocacy states tend to redirect some allocations to students, thereby increasing the influence of markets on institutions.
- *Steering* states attempt to structure the market to produce outcomes that are consistent with state priorities.[5]

Provider states may appropriate money in very large sums and leave it to the institutions to decide how expenditures could be made. In regulator states, line item appropriations may specify in great detail how the money is to be spent. The appropriation may have specific line item controls in a rather detailed formula format where there is limited discretion for the institution to vary its expenditure patterns. Consumer states are more likely to have state financial aid programs. McGuinness has reported that the trend in state level governance is toward more decentralized management and the use of policy tools such as incentives and performance funding.[6] This is consistent with steering state values.

It is deceptively easy to conclude that the legislative/gubernatorial appropriations to postsecondary education tell the full story. In fact, some aspects of appropriation are hidden in the policies and procedures governing other (nonpostsecondary education) state agencies. For example, in some states legal costs are included

in the attorney general's budget. In other states, such as Hawai'i, fringe benefits of over $80 million are carried in the general state budget under the watchful eye of the department of accounting and general services. It is common in some states for debt services to be carried in the general state budget.

Support for land-grant institutions in some states is included in appropriations for the state department of agriculture. In a number of health-related programs, the support may be included in state departments of health.

Tuition

It is important to understand that tuition and fees are not the total cost of attending college. About 30 to 40 percent of the cost to students to attend a public institution is tied up in tuition. The discussion about cost to the student does not include foregone income—income that could have been earned if the student had been employed full-time. Specifically, average costs to the student to attend a public, four-year resident institution in 2001-2002 were:

Tuition and fees	$ 3,754
Room and board	5,254
Books and Supplies	736
Other expenses	2,232
Total	$11,976

Community college tuition is usually much less than tuition at public research universities. It is often the case that tuition in professional programs such as law, medicine, business, and nursing is greater than the general undergraduate tuition, and it would be common that graduate tuition would be more than undergraduate.

The general policy environment for setting tuition is a dilemma, according to Pat Callan.

> Setting tuition, the price that students and their families must pay to attend a public college, is a problem that seems to defy rational solution—or even broad agreement about what would constitute "rationality." There is probably no other public policy issue in higher education in which the great preponderance of expert opinion—policy experts, scholars, and many higher education leaders—is so completely at odds with the preferences of the American public. Policy experts overwhelmingly favor "high tuition-high financial aid" strategies that would concentrate public subsidies on those least able to afford college. While there is little support for free public higher education, the general public consistently favors low to moderate tuition with financial assistance for qualified and motivated students who are unable to afford college.
>
> The steepest tuition increases have occurred in times of economic hardship—times when personal income declines, unemployment rises, and public anxiety is high. This is probably one major reason for the political unpopularity of tuition increases. When sharp tuition increases are enacted to fill the gaps in state revenues, they rarely adhere to the "high tuition-high aid" model. The freed state dollars—rather than being used to increase need-based financial aid for college students—are expended to support programs of higher political salience, such as Medicaid, public schools, and corrections. In both good times and hard times, state and federal financial aid have lost ground to tuition.[7]

Recent history, according to Pat Callan, has shown that formulas for setting tuition are early victims of a recession and that the steepest tuition increases in the public sector have occurred during recessions as states seek to shift their costs to users, including students and their families.[8] Further, because the states' more pressing problem is lack of revenues, they are unlikely to make new or additional investments in student financial aid that will offset the increases in tuition.

State Financial Aid

State financial aid programs are just a small piece of the entire financial aid puzzle. For example, in fiscal year 2001 state financial aid was only 7 percent of the total governmental financial aid available to students. Of the $74.3 billion financial aid available, 68 percent ($50.7 billion) was federal, 19 percent ($14.5 billion) was institutional aid, and 5 percent ($4 billion) was private-sector loans.

There are other forms of aid that tend not to be reported in national data. For example, state reporting agencies identified over $27.6 million in nongrant forms, such as loan forgiveness, work-study, and special scholarships. They also report awarding more than $525 million in aid, given by state agencies other than the primary student aid agency. And finally, state designated federal student loan guarantee agencies have also guaranteed $25.9 billion in new federal loan volume.[9]

Highlights from the National Association of State Student Grant and Aid Programs (NASSGAP) reveal the following information about state aid:

- In fiscal year 2001, the states awarded $4.681 billion in need- and non-need-based student grant aid to more than 3 million students.
- Seventy-six percent was need-based grant aid to undergraduate and graduate students, and 24 percent was for non-need-based grant aid to undergraduates and graduates.
- Of the $3.5 billion in need-based grant aid available, 99 percent went to undergraduates. And of the $1.1 billion in non-need-based grant aid awarded, 96 percent went to undergraduates.
- The six states of California, Illinois, New Jersey, New York, Pennsylvania, and Minnesota collectively awarded $2.1 billion in undergraduate need-based grant aid, comprising 59 percent of the total awarded in this category.

The purposes of these state aid programs, of course, vary immensely depending on local conditions. In a recent conversation, Tom Mortenson described state grant programs as essentially falling into two separate categories depending on how much financial need is met. The programs in New York, Illinois, Pennsylvania, California, Massachusetts, and Washington tended to concentrate state grant dollars on students from the lowest income families. In these situations students from middle-income families, typically around $40,000 of income, face greater remaining financial need after state grant awards than do students from lower family backgrounds.

The state grant programs in Michigan, Maryland, California, Minnesota, and Vermont tend to be of a second type, which extend financial aid eligibility to all students who are needy. While the lower income students may receive larger state grants, higher family income students also receive some state grant funding in recognition of their demonstrated financial need. In short, some states provide grants to a larger share of their needy students than do other states.

In recent years, a third state model has increased in popularity—the merit-based aid programs. The NAASGAP survey indicates that 22 states have need-based state grant programs that also have a merit component. Twenty-eight states identified a non-need-based state grant program with a merit component.

D. E. Heller has reported that during the decade from 1991 to 2001 the proportion of state grants awarded based on merit rather than need has risen from 11 percent to 24 percent.[10] There are three primary motivations for the creation of these merit-based aid programs:

- To promote college access and attainment.
- To encourage and reward students who work hard academically.
- To staunch the "brain drain" of the best and brightest students and encourage them to attend college in the state.

The first and best known state merit scholarship is probably the HOPE (Helping Outstanding Pupils Educationally) program in Georgia. This program was begun in 1993 and now has the distinction of being the largest state-run merit scholarship program in the country, awarding almost $300 million. The program is funded by the Georgia lottery and awards scholarships to students who attain a B average in high school core curriculum subjects. The students have to maintain a B average while enrolled in college in order to retain the scholarship. They receive full tuition plus $150 per semester for books at any public institution in the state, or $3000 for students attending a private institution in the state. Originally, the program had a family income cap of $60,000 but the cap has since been removed.

Of the 12 merit scholarship programs analyzed by Heller, four of them are funded by lotteries, two by tobacco settlement monies, and four use general state revenues. One state, Alaska, uses the proceeds from land leases and sales.

The national discussion about state merit programs is heating up. Heller's research concludes that:

> State merit scholarships are being awarded disproportionately to populations of students who historically, and today, have highest college participation rates. This includes students from middle and upper income families as well as white students. The authors conclude that rather than helping to move each state closer to the goal of equality of educational opportunity, these merit scholarship programs are likely to exacerbate existing gaps in college participation, causing poor and minority students to fall farther behind their wealthier and white peers.[10]

David Longanecker analyzed the evidence of whether merit-based student aid programs actually worked.[12] As to whether or not these programs reward achievement, he argues that they seem to, even though there are some unintended consequences such as changes in the way some institutions package financial aid.

The evidence on whether or not the programs attract the best and the brightest is mixed, however. In states with historical low participation rates, such as Georgia, it does appear to have helped in improving participation rates. There appears to be some spectacular success in such places as the University of Kentucky, which has attempted to "buy" exceptional students and thereby radically change its student profile.

The long-term effects of a program designed to keep the best students in the state are as yet unknown. It seems that in states like North Dakota there has been success in keeping students in the state. Longanecker cites research that suggests "state policymakers have only a modest capacity to influence the human capital

levels of the population by investing in higher education degree outputs."[13]

Longanecker's general conclusion on the efficacy of merit-based programs is:

> The bigger issue appears to be whether the merit-based programs work to achieve their public purposes. They clearly work for some institutions and politicians. But it is less clear that they serve both of their public rationales well. They do appear successful in helping to "change the ethic" where higher education participation is not yet a given (Georgia, Nevada). On the other hand they are not so clearly effective in "holding on" to the best and brightest.[14]

Institutional Aid

As cited earlier, approximately 19 percent of total financial aid is awarded by institutions. For example, the University of California gives $160 million in need-based aid, about one-third of its tuition revenue. At the University of Hawai'i, forgone tuition through a complex series of tuition waivers is almost half as much as total tuition revenue.

The practice of "tuition discounting" by independent institutions is widespread. It is common that of every additional tuition dollar raised in an independent institution, approximately 40 to 60 percent goes for financial aid. In some cases approximately 30 or 40 percent of total tuition revenue in an independent institution will go for financial aid.

In the institutions that administer these programs, there are seldom clear distinctions between need-based and merit-based financial aid. M. S. McPherson and M.O. Schapiro point out that a large portion of need-based financial aid is actually awarded to students whose qualifications are superior.[15] In institutional aid programs, financial aid packages are often sacrificed to those students with less need but higher academic qualifications. In both cases, it is likely that there is still a healthy component of unmet financial need.

McPherson and Schapiro believe that a comprehensive policy to bring about broadly need-based framework of financial aid would include at least five dimensions: common standards of the ability to pay; common standards of aid packaging; commitment to need only aid awards; commitment to full need funding of aid; and commitment to need-blind admissions. These five different aspects of financial aid policy often are related, but sorting them out would clarify public discussion. Agreement can exist on one of these—for example, common standards of aid packaging—while other aspects of aid policy would result in substantial disagreement.

Who Makes ATFA Decisions?

The culture and practices of appropriating money for postsecondary education are as varied as the fifty states. Among these variables are:

- The structure of state governance.
- The culture, tradition, and practices of the separate states.
- The public purposes to be achieved through state policy and governance.
- The incentives available to the various actors to achieve their goals and objectives.

The structure of governance at the state level generally involves judgments about whether there are state-level governing boards,

coordinating boards or a laissez-faire pattern of governance.

Structure

States have traditionally focused almost exclusively on the allocation of formal decision-making authority to various entities that are established within a hierarchical structure. A. McGuinness says these structures include statewide policy boards (either coordinating or governing) and their executives, consolidated or multicampus governing boards and their executives, and institutional governing boards and campus-level decision-makers.[16]

State policies are chiefly concerned with specifying who gets to make what decisions and under what conditions particular kinds of decisions must be approved at levels higher up in the hierarchy.

Functions

The functions performed within the state hierarchy also vary immensely. The amount of authority exercised by a governor and legislature in the appropriations process is a political debate of the highest order. For example, in Hawai'i, the university's statewide governing boards submit its budget requests to the governor in October. The governor then prepares the entire state budget which is sent to the legislature in December or January. The university board typically submits a separate budget to the legislature which has some relationship to that submitted to the governor but is an independent document.

From January through May, the legislature conducts its hearings and appropriates funds as it sees fit. When the legislature adjourns, the state budget is passed to the governor who has the authority to allocate the funds in general according to the method in which the appropriation is made.

In most years, however, the budget appropriation does not match revenues available and the governor is responsible for allocating cuts to the separate state agencies. This leads to the legislature accusing the governor of changing the priorities in the state budget when he makes his cuts.

The pattern of budget cuts developed in the separate states approximates that in Hawai'i, the governor has a great deal more influence over the actual expenditure patterns after the appropriations are made than he may have over the appropriations process itself.

The complexities of the appropriations process are apparent.

> All states have processes for reviewing and approving institutional operating and capital budgets, allocating funds to systems or institutions and insuring financial accountability. States vary greatly in how they assign responsibility for budgeting and financing. In some states, the governor and legislature delegate authority to a postsecondary education agency, while in others they maintain direct control of most of the steps in the budget process. Since the mid-1980s, there has been an upsurge of interest in performance funding and other links between financing and the state public agenda, postsecondary education.[17]

Incentives

Incentives constitute one of the key questions in formulating ATFA decisions. At the state-level the question arises; Who sets tuition and who keeps it? At the institution-level, the question emerges as to whether tuition is kept at the universitywide-level or devolves to the separate operating units of the institution.

In some states tuition is set by the legislature and the revenue goes into the state general fund. In these cases the tuition debate is an integral part of the revenue appropriations mixture. For example, in the state of Washington, the legislature has typically kept the tuition and makes it part of the planning about general state revenues. In recent years, the legislature has set its tuition at a specified level and allowed the institutions to exceed that level within certain guidelines. So the state keeps its specified amount and the institution keeps the excess.

In states where the institution sets and keeps its own tuition, there is a political dynamic with the legislature and governor about various tuition levels. In some cases this results in pressure to raise tuition and in other states to keep tuition lower.

For example, in Hawai'i in the mid-1990s, severe revenue shortfalls resulted in a strong feeling among the governor and the legislature that tuition at the University of Hawai'i was too low. Tuition was set by the Board of Regents, however, and there was little incentive to raise it. The law was changed to require the University to count tuition as part of its appropriation and this resulted in tuition rises of 50 percent in 1996 and another 20 percent in 1997.

On the other hand, tuition raises in response to the recessions in the early 1990s resulted in political backlash, requiring politicians to put pressure on the universities, who set their own tuition, to keep tuition raises low. Governor Gray Davis was reputed to have made arrangements with the University of California to set appropriations levels at certain figures if the university tuition would be held within certain guidelines.

In at least five states—California, Delaware, Minnesota, Oregon, and Pennsylvania—institutions set tuition in July or later. Tuition then is the last decision made before the fiscal year starts. This leads to speculation that it is a balancing factor **after** appropriation levels are set, salary raises are determined, and levels of program support are fixed.

Within some institutions, tuition revenues are decentralized to operating units. The pressure from within the institution can be reflected in the differential requests from medicine, law, dentistry, and business and engineering to allow their tuition to reflect the greater costs of their instruction. In one case the law school of a public university argued for more "tuition-driven" funding pattern. Under this model, the law school tuition would go up to a point where it represents approximately 80 to 90 percent of the operating revenue of the school.

Beliefs and Assumptions in Making ATFA Decisions

The debate about appropriations, tuition, and financial aid is conditioned usually by national and state discussions about such important topics as access, affordability, and participation. The National Center for Public Policy in Higher Education has identified five national trends which condition the general debate:

- Increases in tuition have made colleges and universities less affordable for most American families.
- Federal and state financial aid to students has not kept pace with increases in tuition.

- More students and families at all income levels are borrowing more than ever before to pay for college.
- The steepest increases in public college tuition have been imposed during times of greatest economic hardship.
- State financial support of higher education has increased, but tuition has increased more.[18]

Scholars disagree about some of these national trends. Some argue that the **net price** charged students is actually a smaller share of parental income than was the case a decade ago.

There are at least two major beliefs and assumptions about ATFA that require discussion. The first is that other state needs are more important than higher education. Second is the growing perception that higher education is a private rather than a public good.

It is apparent that many believe that Medicare, health, welfare, crime control, public safety and the public schools are more important issues than appropriations for postsecondary education. Higher education is increasingly viewed as "discretionary" in state budgets. As such, higher education tends to benefit in times of economic prosperity and takes differential cuts in times of economic recession.

There is a growing perception that higher education is a private rather than a public good. Since the individual benefits more than society from postsecondary education, he or she should bear a greater share of the cost. This is a philosophical assumption that tends to dominate the conversation or debate about high tuition/ high financial aid.

There are other emerging beliefs that condition the extent to which higher education appropriations are favored. The debate about the role of higher education in the economic development of the state can often lead to appropriations for technology development and areas like engineering and computer science. Some of the rationale for merit-based scholarships has been related to the public policy objective of keeping the best and brightest home and attending college in their state. Certainly, the arguments about economic development have provided impetus for support of research and outreach in public institutions.

Major Policy Goals for Decisions about ATFA

There is conflict over the priority to be given to competing goals for ATFA. For example, the goals to be achieved through the appropriations process may have some overlap with those to be achieved through tuition or financial aid, but it is useful to separate them for analytic purposes. State officials—governors and legislators—have an interest in increasing or providing access to postsecondary education which is consistent with the open door mission of community colleges. It is clear that increased access is one of the purposes to be achieved in state appropriations, as well as in setting tuition and financial aid. On the other hand, it is commonly believed that the pressure to improve quality and increase prestige is a higher priority for institutions than it might be for state officials faced with severe revenue gaps. But quality and prestige are not the exclusive jurisdiction of institutional officials, since they are also important public policy objectives for governors and legislators and other state officials as well.

Goals for Appropriation

There are seven easily identifiable goals that emerge in various state appropriations discussions.

- **Promote access.** Appropriations are designed to promote access and may include differential support of access-oriented institutions, like community colleges, or funding of regional campus programs to provide access to professional programs, like law, business, and engineering. In addition, construction budgets are often directed at providing access for underserved regions of the state.

- **Promote efficiency.** The appropriations process can direct workload or productivity improvements which are designed to improve efficiency. Some state formulas are directed at efficiency measures, such as costs per square foot, for maintaining buildings and equipment. Some appropriations provide incentives for cost savings in such operational areas as energy and fuel.

- **Assure accountability and performance.** McGuinness has pointed out that an increasing number of states provide performance funding to achieve certain policy goals, such as completion rates or adequate transfer between two- and four-year institutions.

- **Maintain assets.** A large part of appropriations are directed at repair and maintenance of buildings. In addition, one could argue that salary increases and other personnel benefits are directed at maintaining or improving the university's comparative/competitive position in developing human capital.

- **Improve quality and prestige.** Efforts to lower student faculty ratios and to mandate funding levels equal to some hypothetical peer group are often directed at improving institutional quality and prestige.

- **Enhance the state's economic development.** Appropriations may support targeted programs which are designed to enhance the state's competitive position. This may include support for medical schools, engineering, and high tech areas and software development.

- **Promote a political/reform agenda.** From time to time political leaders develop agendas which only marginally relate to higher education. Higher education then gets swept into the reform and appropriations are passed designed to be consistent with this reform agenda, such as appropriations to aid in literacy development, to serve a specific industry, or to promote economic development.

Goals for Tuition

There are three goals for tuition: maintain affordability, close the revenue gap, and support differential missions and costs.

- **Affordability.** One of the major arguments in setting tuition levels is to make sure that it keeps higher education affordable for the neediest students. Declining levels of affordability is one of the political backlashes which require elected officials to put pressure on universities to keep tuition lower.

- **Close the revenue gap.** Increasingly, a number of states and institutions have used tuition to backfill state revenue shortfalls. The political dance between state-level and institutional officials on this goal will be detailed in the discussions of the University of Hawai'i to follow.

- **Support of differential missions and costs.** It is common that the subsidies and tuition levels of research universities, baccalaureate campuses, and community colleges are different, based on their missions. This is the general reflection of the differential costs associated with the more complex mission of a research university as opposed to a community college. Some state formulas take into account the differential costs involved in various high-cost programs, such as engineering, medicine, and high tech and science.

Goals for Financial Aid

There are three goals for financial aid to be discussed: maintain affordability, reward performance, and stem the "brain drain."

Most state-level financial aid programs are directed at helping the neediest students afford postsecondary education. Merit-based programs are directed at the other two goals, providing a reward for performance and stemming the brain drain. Many of the merit-based programs are based on academic performance in high school and are designed to recruit the more able students to attend specific institutions. State programs designed to stem the brain drain are directed at rewarding students who choose to study in their home state.

Given these multiple goals for appropriations, tuition, and financial aid, it is reasonable to ask what priority is to be attached to each and who is to make that decision. The case of the University of Hawai'i offers an interesting example. The author of this paper was the president of the University of Hawai'i System and chancellor of the University of Hawai'i at Manoa from 1993 through 2001.[19]

The University of Hawai'i Experience

The University of Hawai'i is a 10-campus institution consisting of one research, land-grant campus, two baccalaureate campuses and seven community colleges. Enrollment is 45,000 to 50,000 students, and an additional 20,000 to 25,000 are enrolled in a variety of continuing education and noncredit programs.

The university operates under the control of a state-level governing board of 12 members, appointed by the governor and confirmed by the senate. Seventy-five percent of all enrollments in postsecondary education in the state of Hawai'i are in the university system.

The National Center for Public Policy in Higher Education reports substantial erosion in appropriation, financial aid, and raises in tuition during the decade from 1991 through 2001. The center reports that tuition at the university increased to roughly 80 percent, appropriations per student decreased 25 percent, and state grant aid per student decreased by 44 percent over the decade.[20]

In the late 1980s and early 1990s the state of Hawai'i suffered modest economic recessions much like the rest of the country. Hawai'i never rebounded from the recessions, however; and when Ben Cayetano became governor in 1995, he

was confronted with a major revenue shortfall. The context of the university-state relations in confronting that revenue shortfall is important to this conversation.

Prior to 1996, the legislature and governor set the appropriation and some aspects of financial aid, whereas the Board of Regents set tuition. Historically, there was no discernable relationship between tuition and appropriation or, for that matter, between appropriation and enrollment levels. Appropriations tended to be incremental or decremental, depending on economic circumstances. Enrollment levels at the university were rising substantially in the 1960s and 1970s, but tended to fluctuate with economic conditions in the 1980s and 1990s.

From the mid-1970s to the mid-1980s there were periods of no tuition increases interspersed with a few years of substantial tuition increases. During the mid-1980s, the university moved to a tuition-setting pattern of gradual, modest tuition increases, based on the assumption that incremental increases were fairer to a greater number of students. The result was that as the budget crunch hit in the mid-1990s, the University of Hawai'i had among the lowest tuitions in the country. Community college tuition was about $581 per year, and at the research campus it was about $1,800 a year.

There was no substantial program of state financial aid. University policy, established earlier by the legislature, was that not more than 15 percent of the tuition at the university could be waived. As a matter of practice, the university waived about 15 percent of its tuition, some of it based on need and some based on special categories of students, such as athletes, members of the marching band, and student government leaders. In addition, the legislature had passed special tuition waiver programs for senior citizens, blind students, native Hawaiians, military personnel, and certain foreign students. The result was that approximately one in seven students at the University of Hawai'i received a tuition waiver.

The tuition generated by the university's action reverted to the general fund. And as far as could be determined by university officials, there was no relationship between the amount of tuition money and the money appropriated.

After a series of debates and public statements by the governor and legislative hearings, Act 195 was passed by the 1995 legislature. It changed the way tuition and tuition waivers affected the financial health of the university. There are a number of features which are important to this essay. First, $38 million, the amount of 1995 tuition revenue, was subtracted from the state appropriation, but a like amount of tuition dollars was to be retained by the university henceforth. Second, tuition waivers were put under control of the university with the understanding that some of them would be eliminated.

The conversation about tuition was substantially influenced by discussions in the legislature about the deteriorating financial health of the state. The legislature adjourned by cutting the university budget $14 million on a base of about $272 million.

After the legislature adjourned, the Council on Economic Revenues determined that the legislature had not passed a balanced budget. In such conditions the governor has the statutory responsibility to make restrictions in state

expenditures to ensure that revenues and expenditures eventually match. In mid-July, two weeks after the fiscal year began, the governor announced that the university budget was to be cut another $14 million—for a total of $28 million on a budget of $272 million. The further complication was the fact that tuition dollars—$38 million—did not encourage the university to spend them on personnel items since fringe benefits were covered in statewide budgets and not available for nonappropriated expenditures. The university estimated that this was another effective budget cut of $6 to 8 million.

The university took actions to deal with reduced resources and to meet its 1996 fiscal year obligations. Tuition debates occurred with great vigor and hearings were held on each of the major islands of Hawai'i. In the spring of 1996 the board increased tuition by 50 percent for fiscal year 1997 and 20 percent for fiscal year 1998. In addition, tuition waivers for military, senior citizens, and certain other classes were substantially reduced or eliminated. For fiscal years 1998 through 2000 tuition increases were in the range of three to five percent for resident students. There were, however, substantial increases in tuition for professional programs and certain special categories of students.

A strategic plan for the law school was developed such that it became more tuition dependent over a five-year period. The major motivation for moving the law school to a more tuition-dependent model was political rather than financial, however. In the debates about reduced resources, pressure to close the law school became more intense than perhaps that on any other issue. A plan was developed to make it economically infeasible to close the law school, and this plan was heavily dependent upon increased levels of tuition such that the law school would be 75 to 80 percent self-sufficient over a five-year period. This strategy was effective in reducing the pressure to close the law school.

In subsequent years, differential tuition models were developed for programs in medicine, business, and nursing. These were based on discussions about the differential costs of such programs as well as the fact that the market could bear substantially increased tuition.

The political backlash for raising tuition was apparent in discussions in the spring of 2001 about tuition levels for 2002-2007. The university administration recommended a five-year tuition proposal that required increases of two to three percent per year. As is required by Hawai'i law, the proposal underwent hearings on each of the major islands and generated substantial debate about affordability.

A number of regents and university supporters came to believe that raising tuition was just another way for the legislature and governor to cut the university's budget. While it is difficult to develop a cause and effect relationship between the size of budget cuts and the amount of tuition increases, the public perception was clearly that the university's tuition was being used to balance other state priorities, such as health, welfare, prisons, and the public schools.

In March 2000, after lengthy and volatile board hearings lasting some four or five hours, the board rejected the university's proposal to increase tuition. The result was no tuition increase in fiscal year 2001. In the spring of 2001, the board accepted a somewhat similar

tuition proposal for a five-year schedule of two to three percent raises.

Both the governor and the legislature were very critical of the board's rejection of tuition increases in the spring of 2001. It would appear that state officials were most concerned about closing the revenue gap, whereas the board and other university supporters were more concerned about maintaining affordability by increasing the state's appropriation.

Concluding Questions

The basic question for decisions about ATFA is whether or not a comprehensive policy can be developed which will assure appropriate attention being given to the multiple state goals outlined in this paper. To what extent can access and affordability be reconciled with demands for increased quality and prestige? What is the appropriate priority to be given to each of these goals? How can the multiple actors of governors, legislators, and institutional officials reconcile the competing objectives involved in appropriations, tuition and financial aid? For those institutions that do raise tuition, how can they be assured that it simply is not another way to divert resources to other higher state priorities?

Another question of fundamental importance is whether state governance structures and practice make a difference in aligning ATFA. The answer from the field appears to be: it all depends on the issue.

Wellman reports that stronger state-wide governing structures and better use of data are key factors characterizing high performance on 2/4 transfer in the six states she studied.[21] In a study of seven states, Richardson, et al., concluded that affordability seems to fare best in states where some public entity is given or has taken responsibility for representing the public interest on prices.[22] No such differences were found on the issues of cost per student, access, equity, or retention.

It appears that attempts to align state and institutional policies on ATFA confront the traditional dilemmas of competing goals and priorities. Longanecker expresses the dilemma well.

> States, unlike the federal government, have no choice but to balance their budget, and they generally choose one of two approaches: either cutting discretionary items across the board (to share the pain), or focusing cuts where they can best be handled (to be wise and strategic).
>
> Either strategy can prove mighty difficult for higher education to handle. Across the board cuts lead to reductions for both institutional support and state financial aid line items. As a result, both access and quality are placed at risk. Strategic cuts, on the other hand, often end up targeting higher education because we have a safety valve, tuition. Either way, higher education loses. Not all institutions are equally hard hit, but those who are the biggest losers financially actually lose twice—for in our increasingly market-oriented higher education industry, these circumstances breed nefarious competition for faculty, students, leadership, and prestige.[23]

Longanecker goes on to lament the absence of intentional integration in our state and federal financing policies. It is very difficult to integrate finance policies since few states intentionally align their institutional subsidies, tuition and financial aid.

More intentional policy integration should at least recognize that reducing institutional support provides opportunities but also creates real problems in maintaining adequate levels of

quality and prestige. Further, any plan for intentional policy integration must provide some capacity or incentive for institutions to plan ahead for variations in state funding.

This last point is quite important to institutions. In most states if institutions accumulate reserves, most state officials are clever enough to find way to capture them. Therefore, there is little incentive to plan ahead when there is substantial funding fluctuation based on annual revenues rather than five-year revenue pictures.

Integrated finance policy must ensure that state policy and practice with respect to institutional support are in sync with state tuition and financial aid policies and practices. When institutional support diminishes, it is not necessarily untoward for tuition and fees to increase. However there must be consideration given to protect those who simply cannot bear the increased cost.

It seems that several policy imperatives follow. First, states must have a viable state financial policy, which unfortunately few states do. J. Davis has suggested that a comprehensive and basic question should guide the design of any state grant or program: "Who should receive how much aid to attend which kinds of postsecondary education institutions for what purposes?" [24]

Second, once states have a viable state financial aid policy, it must be integrated with state tuition policy and federal financial aid so that you intentionally secure financial access. That is, when tuition goes up, financial aid must go up. And when federal fluctuates, state aid should take that into account.[25]

Third, states must assess their appropriations, tuition, and financial aid policies and practices to see whether they meet announced policy objectives.

Fourth, proposals for change must recognize the different authority of the various actors over the different issues of appropriations, tuition, and financial aid. It is unlikely that changes orchestrated by one actor or set of actors can be imposed unilaterally on the others.

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INFORMING THE INTEGRATION OF TUITION, STUDENT FINANCIAL AID, AND STATE APPROPRIATIONS POLICIES

Paul T. Brinkman

Data can be helpful in two ways in achieving the goal of integrating policies on tuition, student financial aid, and state appropriations. Data can help catalyze commitment to that very goal—a commitment that should not be taken for granted, as it is actually quite rare. Given the commitment, data can be helpful in crafting and monitoring policies designed to achieve the goal. By and large the same data can play both roles, and it is those data that we will attempt to delineate in what follows.

The reasons these three policy elements should be integrated, and how integration might be accomplished from a governance perspective, are being addressed in companion papers. Suffice it to say here that the single most important reason for the integration is that it is deemed necessary for preserving and even enhancing access to higher education. Thus, for data to be relevant to the integration challenge, they must somehow relate to the access issue. Choice of institution and persistence in college, traditionally also part of a comprehensive approach to financing higher education, are not as singularly important; but they should not be ignored either.

Data points in isolation almost never have much value or impact, almost never can play the required informative role. The isolation with which data points begin can be mitigated by measuring the same phenomenon at a series of points in time, or by measuring comparable phenomenon at other locations at the same point in time. Another approach to creating meaningful data is to place the data within a context or background provided by other types of data. Yet another approach is to establish targets or benchmarks against which data points can be compared. All of these devices will be used in what follows.

For this paper, we thought it best to aim for a wide-ranging data set that can be assembled with a reasonable amount of effort. This is not an all-or-nothing situation, however. Gathering and using just a portion of the data delineated below would likely be helpful, and certainly better than entering the policy fray with no data at all.

One of the reasons a wide-ranging data set is recommended is that the most compelling data one might imagine for present purposes are not available. For example, it is difficult if not impossible to obtain a count and description of the students who are not attending college at a particular time and location precisely because of financial constraints. And even if those numbers and descriptions were available, the additional data and information needed to craft an effective and efficient corrective strategy are not at hand either. Pity the poor university president who asks how a particular tuition increase will affect the enrollment in his or her institution. Even if the respondent can quote from the research literature, a thoughtful answer would be served up with a *ceteris paribus* here, a cross elasticity there, and assumptions everywhere, which may be sound academically but will be ineffective from a decision-making or policy-setting

perspective. Similarly, there are no easy answers if legislators ask, as they ought, how to maximize the impact of their dollars in pursuit of increasing access; for example, whether, dollar for dollar, lowering tuition would be more effective than providing more need-based grant aid.

While we lack proven recipes and pat answers, we are not helpless in the face of these fundamental questions. It is not the case that "everything is subjective" because we lack definitive solutions. Rationality and objectivity in this instance lie in the combination of whatever pertinent data can be found and a process of working with that data within an appropriate deliberative process. As noted earlier, consideration of that process is being addressed elsewhere. Here, the focus is on assembling a mosaic of data, or indicators, that, while not definitive, may be sufficiently compelling to win political support and guide policy.

That mosaic has four segments:

- Contextual and background data, primarily in terms of economic conditions.
- Referential data, primarily in the form of higher education performance across the country.
- Indicator data, primarily in the form of home-state higher education performance measured over time and against performance elsewhere.
- Illustrations of how at least some of the data in the third segment might be combined and presented in ways that could enhance their impact in the policy arena.

Before proceeding to discuss the various data sets, we need to note several conventions or strategies that were adopted to facilitate the presentation. First, while "tuition" is the term used throughout, the referent intended is "tuition and mandatory fees." Since mandatory fees typically are material, it is important to keep this convention in mind. Second, the primary student expense category directly addressed in what follows is tuition. With a few exceptions, we have not dealt directly with the broader concept, "cost of attendance," which typically includes tuition plus the cost of books, commuting, board and room, and miscellaneous items. The additional data are much more difficult to obtain in a consistent manner, and, more importantly, the additional costs elements are not state policy issues. Still, readers pondering the access question ought not forget that tuition is not the only issue on the cost side. Third, the phrase "some history" is used on a number of occasions to suggest that it is worthwhile assembling more than the most recent year's data, but no particular length of time is obviously preferable. As a rule, it is a good idea to assemble and maintain relatively long time series when practical. On occasion, a long historical perspective can be helpful.

Socioeconomic Context

In preparation for making decisions about tuition, student aid, and appropriations, it is useful to develop and annually update a database that describes the pertinent, broad-based socioeconomic environment within which the decisions are to be made. As the current situation so amply demonstrates, tuition tends to increase most sharply when economic conditions are poor: that is, when tax revenues supporting appropriations to institutions and to student aid programs are likely to be threatened.

Measures of the condition of the economy, then, are part of the context within which the policy decisions in question should be evaluated. Ideally, such a contextual database would contain at least the following data elements.

National Socioeconomic Conditions

Relevant national data would include price- and income-level changes.

- *General price-level changes: the percent change in the Consumer Price Index (CPI) for the nation (all cities), some history.*

The CPI indicates the price-level increases faced by students as consumers of a typical variety of goods and services. It is the most common means of calculating the real cost or value to students of an increase in tuition or in financial aid.

For many years, higher education analysts had access to the Higher Education Price Index, which purported to reflect the price-level changes faced by colleges and universities as consumers of a particular market basket of goods and services. That index is no longer being updated. In its absence, there may be occasion when an index of the changing costs of serials maintained by the Association of Research Libraries (ARL) could be useful. While highly specialized, over the past decade or so it has served to make the point that certain costs faced by higher education can behave very differently than the CPI. Caution is advised, however, as the advent of electronic journals has led to complicated pricing packages that may undermine the validity of the ARL index or at least make it difficult to interpret.

- *Income levels: per capita disposable personal income by state, some history; and median family income by state, some history.*

These two income measures are useful in assessing ability to pay tuition. Year-over-year changes can be juxtaposed to changes in tuition. A rank-ordered listing by state shows how well home-state individuals and families are doing compared to their counterparts elsewhere in the country.

State Socioeconomic Context

In addition to the national outlook, it is useful to develop and annually update a database that describes the pertinent, home-state socioeconomic environment. Ideally, such a database would contain at least the following data elements.

- *General price-level changes: the percent change in the CPI for relevant portions of the state and/or for the state as a whole, with some history.*
- *Student/family ability to pay: state per capita personal disposable income, with some history, and state median family income with some history.*

These data would be obtained as part of the national data set. The federal Bureau of Economic Analysis is the key resource for such data. These data are available by quintiles and should be gathered and stored in that format.

There are several other important data elements to consider, including:

- *State unemployment rate, some history.*

While increased unemployment lowers the cost of attendance by lowering the opportunity cost

of attending school, higher unemployment compromises students' ability to raise cash. Over time, if high unemployment persists, more and more students will feel the negative income effect and may not be able to take advantage of low opportunity costs.

- *Demographics: the change in the number of 18–24 year olds, 25–34 year olds, and 25–44 year olds over the past 10 years, by ethnic group, by county; and population projections for 18–24 year olds, 25–34 year olds, and 25–44 year olds, by ethnic group, by county.*

While current problems and opportunities naturally take priority, or at least capture most of the attention, a longer-term view is important, too. A key variable in higher education's future is the population pool. Bolstered by data from the 2000 Census, state demographers typically can supply long-term population projections that should be incorporated in the state socioeconomic database.

- *State ability to pay: state tax revenues that are the source for higher education appropriations, some history; and state tax capacity, most recent data.*

State tax revenues are, of course, the necessary basis for state appropriations. In the end, it is the appropriations that count; but the direction that revenues are heading, revenue forecasts, and the relationship of revenues and appropriations are all useful in understanding the financial context. The same can be said for estimates of tax capacity, particularly when considering a state's long-term capability to sustain adequate levels of support for higher education and other services.

- *Also related to state ability to pay: amount of state reserve funds, some history.*

Most states maintain financial reserves. The size and use of these "rainy day" or, more formally, budget stabilization funds, are potentially important factors in stabilizing state appropriations going to higher education. While the building of these reserves in good economic times might well reduce funding available to higher education, the use of these reserves in bad economic times can mitigate reductions in appropriations to higher education. There is no consensus on the correct amount of such reserves, but many observers would argue that five percent of general funds is a reasonable target.

- *State spending: total state appropriations, some history; and state appropriations broken out by major recipient including, but not limited to, higher education, some history (focus on appropriations for operations, rather than funding for capital projects).*

These are the raw data needed to establish the recent performance of this key resource for public higher education. Care needs to be taken in order to ensure that the time series is valid, as appropriations can be repackaged on occasion. For example, on occasion a special source of funds may stop flowing to higher education. This might be a true reduction in funding or it might be that the funds have been replaced by general funds. Similarly, should a new source of funding become available to higher education, it may constitute additional funds or just be a replacement for general funds.

Research Findings

Part of the appropriate information context for policy integration comes from the research literature primarily created by applied economists. While the findings are quantitative, they are difficult to apply to particular situations in a fully quantitative way. Yet they can be informative and are worth having ready at hand as policies are fashioned.

- *Returns to college: recent findings regarding private returns to college, including wage differentials by level of education and internal rate of return by level of education; and recent findings regarding social returns to college.*

Data on wage differentials by level of education are readily available and represent the easiest way to address the private side of the "Who benefits from higher education?" question. Internal rate-of-return calculations, which take into account costs incurred in securing a higher education, can only be found in Paulsen. Field-specific findings can be useful when considering so-called differential tuition, i.e., tuition that differs by field of study. A fairly recent summary of findings can be found in.[1]

The data themselves, while informative, may not send a simple message. For example, an increase in the payoff to students for attending college is both a good argument for raising tuition and a good argument for making sure that everyone gets a fair chance to attend college.

The National Center for Public Policy and Higher Education has given a "social benefits" grade to each of the states, most recently in *Measuring Up 2002*.[2] The grade is derived from a composite score and a ranking of the 50 states. The composite performance is "measured by the percentage of 25- to 65-year-olds with a bachelor's degree or higher; percentage difference in total personal income between those with a bachelor's degree and those without a bachelor's degree and those with some college education, including an associate degree; percentage of eligible residents voting in the 1998 and 2000 national elections; percentage of residents who declare charitable gifts among those who itemize their federal income-tax returns; and percentage of adults demonstrating high literacy skills." The grade is one way of reminding policymakers that college is a good investment for society as well as the individual.

- *Price elasticity: estimates of the elasticity of student demand in response to changes in the cost of attendance.*

Elasticities are of interest whether they occur in response to price increases or price discounts. While the research findings are difficult to apply quantitatively in establishing policy, they can be helpful both in confirming intuitively understood relationships, such as the greater sensitivity of low-income students to changes in price, and less obvious, more subtle relationships, such as the relative effects of different forms of student aid (grants versus loans) on student demand. A fairly recent summary of findings can be found in Heller.[2] there is an extensive literature on the impact of student aid on access, choice, and persistence. There is a modest but growing literature on the impact of state merit scholarship programs; for example, see Heller and Marin.[4]

National/Regional Higher Education Reference Set

It is sometimes appropriate for policy advocates and policymakers to address "How are we doing?" or even "What should we do?" questions in part by looking at performance and policy choices in comparable situations elsewhere. Being above or below a national or regional average, or being near the top or the bottom of a listing of states, can get the attention of policymakers. It is often difficult to determine in the abstract an acceptable level of performance, for example, for college participation rates. What happens in other states can take on considerable importance in those instances. This section also contains the federal student aid component. A good source for many of the measures mentioned in this section is the National Center for Higher Education Management Systems (NCHEMS) Web site (www.higheredinfo.org/).

Access

- *Percentage of 18- to 24-year-olds enrolled in college: by state, and national average, in 2000 (Census); national average, some history (CPS); adjusted for high school graduation rates by state (five years prior).*
- *Percentage of 25- to 34-year-olds enrolled in college: by state, and national average, in 2000 (Census); national average, some history (CPS).*
- *Percentage of 25- to 44-year-olds enrolled as undergraduates: national average by state, and national average, in 2000 (Census and IPEDS).*

College participation rates (CPR) provide a crucial piece of information related to access. The data on rates are challenging, however, from two perspectives. First, accurate and reliable participation rate data are usually hard to find. The Current Population Survey (CPS), done jointly by the Census Bureau and the U.S. Dept. of Labor, provides an annual fall estimate for the nation, which is useful for the national perspective, but sampling limitations render the data inappropriate for state-level estimates. The 2000 Census, however, does provide a window of opportunity. It provides data on both enrollment and population from which a CPR can be calculated. Census population data can also be used in conjunction with enrollment data from IPEDS (as demonstrated in the third measure above which is available on the NCHEMS Web site). Accurate data can be generated by state for the year 2000 for the age intervals shown above. The usefulness of the data will diminish with time, but the current opportunity to get good comparative data on participation in higher education should not be missed.

A second challenge lies in the interpretation of the rates. There can be many reasons behind a particular CPR, including, but certainly not limited to, the way in which a state structures the financing of its public colleges and universities. One cannot assume, in other words, that a low CPR is necessarily a good argument for lower tuition or more student aid. A data adjustment that will help to mitigate the confounding effects of the various other influences is to take into account differences in the high school graduation rate (HSGR) among states. This latter rate is a good proxy measure for the proportion of individuals who are at least minimally prepared to enter college. A simple way to make the adjustment is to divide each state's CPR by its HSGR and then rank order the quotients. The adjustment for a low HSGR will be greater than

the adjustment for a high HSGR, thus leveling the playing field among states at least somewhat. Arguably, the adjusted CPR speaks more directly to financing policies.

- *College participation rates for students from low-income families, by state, some history where possible.*

One approach to this data appears regularly in *Postsecondary Education OPPORTUNITY*. It applies to dependent children age 24 or below. The ratio calculated for each state is the number of dependent Pell Grant recipients to the estimated number of low-income dependent children (based on numbers of children in the National School Lunch Program). This construct is probably too weak to stand on its own in a policy debate, but it is an indicator that is available annually. The 2000 Census offers another approach, including an opportunity to compare 2000 with 1990 values, to examine CPR for low-income households when the Public Use Micro-data Sample (PUMS) becomes available sometime in 2003.

- *For individuals 18 years old or older, by state, national average, in the year 2000: percentage with some college, but no degree; percentage with an associate degree; percentage with a bachelor's degree or higher.*

Less directly connected to immediate state policy decisions than participation rates, educational attainment is nonetheless worth tracking. The 2000 Census is a good data source.

- *Accessibility scores: dependent full-time, low-income undergraduates, by state; dependent full-time, median-income undergraduates, by state; independent full-time, low-income undergraduates, by state; independent full-time, median-income undergraduates, by state.*

These data have been developed by Kipp, Price, and Wohlford.[5] The value given to each state in each of the four data sets is the percentage of its public and private institutions that are judged to be accessible to the type of student indicated. Accessibility is determined by a complex algorithm and includes measures of both admissibility and affordability. The affordability component is more directly related to the policy integration issue addressed in this paper, but the combined score is not irrelevant to the larger access question. The affordability determinations, which perforce involve judgments, have proven to be controversial in some quarters. They should be used with care to ensure that the general rules used in the analysis lead to plausible results for the home-state's own institutions.

Affordability

- *Percentage of a family's income needed to pay for college expenses, minus financial aid, at both two- and four-year colleges, by state.*
- *Share of income that poorest families need to pay for tuition at lowest-priced colleges in the state, by state.*
- *Average loan amount that undergraduate students borrow each year, by state.*

There are alternative ways of measuring the affordability of higher education, none of them as "clean" as we would want them to be. Those shown above have been developed by the National Center for Public Policy and Higher Education to create a composite score and grade for affordability, as published most recently in *Measuring Up 2002*. Note that in the first of the

three measures, "college expenses" include tuition plus board and room, which means that some expenses (for instance, the cost of books) are missing, and that the institutional component of financial aid is an estimate. The second measure uses data from the Current Population Surveys, which means that state sample sizes are a concern. The income data in *Measuring Up 2002* are three-year averages in an effort to address this problem. In the third measure, the average loan amount is the average amount per loan, not per student. Analysts will differ as to extent to which these problems undermine the utility of the measures.

Sticker Price

- *National averages for tuition by institutional type, some history.*
- *Regional averages for tuition by institutional type, some history.*

These data can be used in several ways in combination with other data to establish the relative level of home-state tuition. It is advisable to gather the data for both undergraduate and graduate tuition and resident and nonresident tuition. The College Board's annual publication on tuition is a good source for the national perspective. The regional state compacts are a good source for regional averages.

Price Discounts

- *Total federal expenditures for the Pell Grant program.*
- *Expected increase in Pell Grant maximum award amount.*
- *Percentage of state grants awarded to low-income families compared with Pell Grants given to low-income families in the state, by state.*
- *State student aid expenditures, need-based programs, merit-based programs, by state.*

The Pell Grant program is a key element of student aid strategy. It merits close attention. The College Board's annual publication *Trends in Student Aid* is a good source for a long-term perspective on that program and other types of aid as well. Another useful source is the American Council on Education's *2000 Status Report on the Pell Grant Program.* State student aid programs differ in ways other than expenditures amounts, so data on those programs have to be handled with care. The National Association of State Student Grant and Aid Programs gathers and publishes the relevant data. It also appears from time to time in the *Chronicle of Higher Education* and in *Postsecondary Education OPPORTUNITY.*

State Effort on Behalf of Higher Education

- *Share of all state appropriations going to higher education, by state, some history.*

This measure of effort on the part of states to support higher education reflects not only the level of commitment to higher education but other factors as well, such as the shape of the population pyramid, other demographics, and the composition of a state's higher education system by institutional type. Despite its ambiguities, it remains an easily calculated and understood data point with a lot of visibility in the policy arena. The National Conference of State Legislatures is a source for data on state revenues and expenditures.

- *State appropriations per full-time equivalent student, averages for groups of institutions*

comparable in mission, role and scope, to each of the home-state's public colleges and universities, recent data.

In most instances, a per-student measure is an appropriate way to scale appropriations for comparative purposes. Care needs to be taken when dealing with multipurpose institutions (for example, land-grant schools), where significant appropriations may be directed at activities that do not involve students. Selecting comparable institutions for the data set should mitigate the threat to valid comparisons. Literature is available on the selection process.[6] On its Web site, the National Center for Education Statistics provides an avenue to IPEDS data, a wide-ranging, institution-specific data set gathered through annual surveys. The State Higher Education Executive Officers (SHEEO) Web site has avenues to IPEDS data and other data as well. NCHEMS provides both an institutional selection process and access to IPEDS data.

Revenue from Students

- *Tuition revenue per full-time equivalent student, averages for groups of institutions comparable in mission, role and scope, to each of the state's public colleges and universities, recent data.*

Tuition revenue data need to be scaled to be useful. A per-student measure is appropriate. Care needs to be taken when dealing with institutions that differ significantly from one's own in ways relevant to tuition (e.g., schools with medical students, disproportionately high levels of students in professional programs, disproportionately high levels of nonresident students). Again, selecting comparable institutions should mitigate the threat to valid comparisons.

Home-State Higher Education

In this section, the home-state's higher education system itself is the focus for the data selection. In addition to data on system performance, various dimensions of that performance are interrelated with aspects of the socioeconomic context and the higher education reference set. As conceived here, the data in this segment would be the data used to catalyze policy integration or to shape and monitor policy.

If an appreciable component in the home-state's overall higher education effort is provided by the private sector (not-for-profit or for-profit), then some data on the private sector is worth capturing. If local appropriations are a factor within the home-state system, then they too need attention along the lines given to state appropriations.

As is true for the preceding sections, the data elements, or indicators, have been grouped according to various themes. These should be considered suggestive rather than sacrosanct. Tuition in particular is problematic. It appears as a component in all but two of the groupings shown below, which mirrors the fact that we think about tuition differently when the issue is affordability versus when we are concerned about the adequacy of institutional funding or sharing the cost burden between taxpayers and students. Other ways of organizing the data elements may be superior.

Access

- *Percentage of home-state 18- to 24-year-olds enrolled in college, as percent of the national average, state ranking using actual*

values and values adjusted for variations in high school graduation rates.

- *Percentage of home-state 24- to 35-year-olds enrolled in college, as percent of the national average, state ranking.*
- *Percentage of home-state 25- to 44-year-olds enrolled as undergraduates, as percent of the national average, state ranking.*

Many things other than state financial policies might affect higher education participation rates. Still, overall participation rates are a critical indicator for state policymakers. Not only do they speak to access for the citizenry, but they are relevant to the state's economic future as well. It is hard to imagine that a state could ignore exceptionally low participation rates indefinitely. As noted earlier, at least the indicator for younger individuals may be improved by adjusting it for the respective high school graduation rates.

- *Higher education participation rates by home-state county, 18-24 year-olds: lowest county rate as percent of highest county rate.*
- *Higher education participation rates by home-state county, 25-34 year-olds: lowest county rate as percent of highest county rate.*

Differences in access within a state may be significant. Low participation rates are sometimes used by communities or regions to argue for having their own college, but wide disparities among counties could point to issues other than immediate geographic access.

- *College participation rates by various ethnic groups within the home state, actual and adjusted by their respective high school graduation rates.*
- *Distribution of enrollments by ethnic groups by type of institution within the home state, by level of instruction.*

Participation rates may differ widely among ethnic groups. A comprehensive, integrated financing policy might well include provisions designed to mitigate these differences, even while recognizing that the differences are the result of more than just finances. Finding appropriately disaggregated data typically is a challenge, but the 2000 Census offers an opportunity to do so. Interstate comparisons are not really needed in this instance, as the comparison of interest is that between and among the ethnic groups in the home state.

It also is important to monitor the distribution of students by ethnic group by type of institution, at least by two-year versus four-year institution. A heavily disproportionate distribution may or may not be due to financial reasons, but the data should be part of the policy discussion. The distribution of enrollments is available on a regular basis in the IPEDS surveys.

- *The home-state's college participation rate for low-income students as a percentage of the national average.*
- *Home-state share of the dollar value of all Pell Grants awarded nationally, some history.*

The traditionally low participation rate of low-income students is certainly one of the reasons to better integrate financing policies. Comparisons with other states on the participation rate indicator could help galvanize support for such policies. Similarly an increase in the home-state's share of all Pell Grant awards could indicate that more low-income students

are finding their way into the home-state's higher education system.

Attendance Patterns

- *Year-over-year retention rate, first-year students, some history.*
- *Year-over-year retention rate, first-year students, students receiving need-based aid versus students not receiving need-based grant aid.*
- *Percentage of students who attain upper-division status, some history.*
- *Percentage of students who attain upper-division status within three years, students receiving need-based aid versus students not receiving need-based grant aid.*
- *Six-year graduation rate, some history.*
- *Transfer rate, two-year to four-year institutions, some history.*
- *Average age at time of earning bachelor's degree, some history.*
- *Extent to which students are working, some history.*
- *Percentage of undergraduates attending part-time, some history.*
- *Percentage of students who apply for student aid with dependent status, some history.*

It can be argued that if tuition is high and/or student aid is low, there may be unwelcome effects on attendance patterns above and beyond any negative impact on access itself. The various measures suggested above would provide some indication of how attendance patterns are changing over time and whether students with need-based grant aid perform differently than other students. The pattern that would point to financial stress would, of course, be one in which the elapsed time spent in higher education gets longer and longer.

While students seem able to cope with this phenomenon, it cannot be good from a pedagogical or financial perspective. The cash outlay made by students increases, and the economic benefits to be derived from having a college degree are delayed. Because many of these measures are likely to be sensitive to economic conditions, it would be advisable to develop a sufficiently long time series to capture at least one full economic cycle. Most of the above data can be found or developed by manipulating the contents of institutional databases. Data on hours worked typically have to be developed through special surveys.

Affordability

- *Percentage of a family's income needed to pay for college expenses, minus financial aid, at both two- and four-year colleges, ratio of home-state value to national and/or regional average value.*
- *Share of income that poorest families need to pay for tuition at lowest-priced colleges in home state, ratio of home-state value to national and/or regional average value.*
- *Average loan amount that undergraduate students borrow each year, ratio of home-state value to national and/or regional average value.*
- *Tuition as percent of home-state personal disposable income (by institution or institutional type), ratio of home-state value*

to national and/or regional average value, ranking among the states; some history.

- *Tuition as a percent of home-state median family income (by institution or institutional type), ratio of home-state value to national and/or regional average value, ranking among the states, some history.*
- *Percentage change in tuition in constant dollars, each of the last 10 years.*
- *Average percentage change in tuition during the last 10 years in constant dollars (CPI).*

Affordability is a critical issue, and one that is worth measuring in a variety of ways. These various ratios should be followed over time. As noted earlier, the first three of these measures have been made available in *Measuring Up 2002*. Each is problematic from an analytical perspective; the home-state data should be verified to the extent possible before comparing to the national averages. The remaining measures indicate whether home-state tuition is more or less expensive relative to other states, adjusting for income, and whether home-state tuition is becoming more or less expensive relative to prices in the general consumer economy. Policy options include setting tuition in relation to income (family or per capita) or a broad range of prices (the CPI being the most familiar measure for the general public).

Sticker Price

- Tuition *by home-state institution, some history.*
- *Tuition by type of home-state institution, some history.*
- *Home-state tuition as percent of national average, by institution and institutional type.*
- *Home-state tuition as percent of regional average, by institution and institutional type.*

While questions about affordability play a crucial role in the policy discussion in question, basic data on tuition in the public system are important for reasons other than affordability. For example, the relationship among the various levels of tuition at the colleges and universities in the system involves questions of enrollment management, institutional differentiation, and cost sharing between taxpayers and students.

It is unlikely that policymakers would set tuition as a percentage of the national or regional average. There are too many other factors to consider that might make a particular level of tuition reasonable in one state but not another. Nonetheless, tracking local tuition against a broad range of tuition elsewhere is a useful exercise. For example, it allows policymakers to see the relative costliness of their various types of institutions. Their community colleges might be relatively costly when measured against other community colleges in their region, and the reverse may be true for their universities. Observations of this sort can help get relevant policy questions on the agenda.

Price Discounts

- *Number of home-state Pell Grant recipients, some history.*
- *Total dollar amount of home-state Pell Grant awards, some history.*
- *Number of students with zero family contribution on the federal financial need calculation.*

- *Number of home-state need-based grant recipients, some history.*
- *Total dollar amount of home-state need-based grant program.*
- *Home-state need-based student aid per student aided, some history.*
- *Home-state need-based student aid per undergraduate student, some history.*
- *Home-state need-based student aid per student aided as a percent of tuition, some history.*
- *Percent of tuition going into need-based institutionally sponsored aid, by institution.*
- *Percentage of state grants awarded to low-income families compared with Pell Grants given to low-income families in the state, ratio of home-state value to national and/or regional average value, ranking among the states.*
- *Need-based grants total (federal, home state, and institutional) as percent of assessed tuition revenue, by institution.*
- *Number of home-state merit-based grant recipients, some history.*
- *Total dollar amount of home-state merit-based grant program, some history.*
- *Percent of merit-based aid going to students with financial need.*
- *For home state, the total dollar amount borrowed in all higher education loan programs, some history.*
- *Ratio of home-state resident students attending college in home-state jurisdiction to all home-state resident students.*

Basic information on the major student aid programs in the state needs to be readily available as the policy discussion unfolds. The most salient features might well differ from one state to the next, depending on the particulars of state student aid strategies. For example, a state that initiates a merit-based aid program designed to keep students from leaving to study elsewhere could use the IPEDS data on migration to track the success of the initiative. The full range of data mentioned above may not be available in all states but the data assembled needs to be adequate to support a discussion of the balance between merit and need-based aid.

Adequacy of Institutional Funding

- *By home-state institution or type of institution, higher education appropriations per FTE student in constant dollars (CPI), last 10 years.*
- *By home-state institution or type of institution, tuition revenue per FTE student in constant dollars (CPI), last 10 years.*
- *By home-state institution or type of institution, core funding (tuition revenue plus state appropriations) per FTE student in constant dollars, last 10 years.*
- *By home-state institution or type of institution, core funding (tuition revenue plus state appropriations) per FTE student as a percent of peer average, ranking among peers, some history.*

"Core funding" per student indicates the primary resources at the institution's disposal to support

its educational mission. The time dimension shows whether that funding for the various institutions in the home state has been keeping up with changes in prices of goods and services purchased and with changes in enrollment.

Looking across the country, a state may find itself with institutions that have fewer resources to work with than comparable institutions in other states, or vice versa. It is important to be concerned about the financial health of the institutions as well as student access to those institutions. An institution's relative position may be an indicator of its willingness to support the policy integration in question. These data require plausible peer groups to have credibility.

- *Fiscal year revenues versus expenses, net assets, cash, some history.*
- *Bond ratings.*

Year-end, audited financial reports provide valuable information about an institution's financial health. When expenses exceed revenues year after year or when bond ratings slip, there is certainly reason to take a closer look. So-called "ratio analysis" is not new to higher education. A recent example is the set of financial health indicators used by the Ohio Board of Regents. Recent changes in accounting standards for public colleges and universities complicate matters. While several measures are suggested above, the overall advice provided here is to use the institutional financial reports with caution and, perhaps, with consultation. One can expect that expert opinion will be forthcoming soon on how the new reporting structure can best be used to create measures of financial health.

- *For home-state institutions: Student-faculty ratio, some history; average class size, some history; share of student credit hours taught by part-time faculty, some history; average faculty salaries by rank as a percent of appropriate national averages and/or as a percent of faculty salaries at peer institutions.*

There is no single, most appropriate student-faculty ratio or average class size or level of teaching done by part-time faculty. Yet most observers would agree that long-term, material increases in those three measures would signal a threat to, if not an outright diminution of, the quality of instruction. Average faculty salaries that are far below national or peer averages signal a lack of competitiveness in hiring and retaining faculty, especially for institutions that must compete in the national market. Deterioration over time in the relationship to such averages would also be a concern.

Sharing the Burden

- *Higher education appropriations as share of total home-state appropriations, percentage of the national average, ranking among the states, some history.*
- *Appropriations of home-state tax funds to higher education for operations, per $1000 of personal income, some history, percent of national average.*

These indicators measure taxpayers' effort on behalf of higher education over time and in reference to taxpayers in other states. The second measure, appropriations per $1000 of personal income, is published annually in *Postsecondary Education OPPORTUNITY.*

- *Tuition revenue as a share of core funding, ranking among peer institutions by home-state institution or type of institution, some history.*

These data also provide broad measures of the interplay between appropriations and tuition over time and in reference to institutions in other states.

- *Direct cost of instruction per undergraduate, by home-state institution, some history.*
- *Full cost of instruction per undergraduate, by home-state institution, some history.*
- *Tuition as percent of the direct cost of instruction, by home-state institution, some history.*
- *Tuition as percent of the full cost of instruction, by home-state institution, some history.*

If the cost data can be broken out by level of instruction, for example, undergraduate versus graduate, then one can compare tuition rates per full-time student with the cost of instruction per FTE student as indicated. In some states, instructional costs may be disaggregated by lower and upper division as well. Costs by level of instruction open a window on some of the many cross-subsidies that are likely to be found in most higher education institutions, which could lead to more differentiation in tuition policies. Not all states, however, are likely to have institutions that have done the cost studies being referenced here. Furthermore, allocating costs by level of instruction normally involves a degree of arbitrariness, so care needs to be taken if such data are to be used in setting tuition.

Putting the Indicators Together to Enhance Their Impact

It is likely that some of the above indicators will be more compelling than others in the policy arena, depending on local circumstances. It is also likely, or at least plausible, that a combination of indicators—for example, a number of them pointing in the same direction—would have more impact in the political arena than any single indicator. In any case, some thought needs to be given to ways of presenting the indicators so that they send a message that is as clear as possible.

Grades

One way of organizing the indicators is to aggregate them into a composite score or grade. This has been done in *Measuring Up 2002* and the earlier version of the report card. Something similar could be done with the various themes above. For example, one could assign a grade to access, patterns of attendance, affordability, tuition, student aid, adequacy of institutional funding, and sharing the burden. Each of the grades could reflect the percent of the respective measures in each category that are at acceptable levels. Acceptability in this context could be established by measuring against a benchmark, where the benchmark could be last year's value, a national or regional value, or simply an agreed-upon target value. Whatever form the benchmark takes, it provides a first necessary level of contextualization. Organizing the indicators around the respective themes and the grading system provide second and third levels of meaning, respectively.

Movement from a Base Year

Alternatively, one could pick and choose among the indicators so as to organize them for clarity of message. One might select a set of indicators all of which signal a deteriorating situation when the numbers increase: for example, when the relative price of attendance goes up or the share of cost covered by tuition goes up (as illustrated

in Table 1). Similarly, another set of indicators would signal improvement when the numbers increase: for example, when participation increases or when core funding gets relatively better or when more funding is directed toward need-based aid.

Here the theme is movement or change from a starting point. Are things getting better or worse than they once were? Which measures in particular show deterioration or improvement in that sense? Collectively, what message do they convey? There is no end point or goal, just movement or the lack thereof from a starting point. In the illustrative table, that point is just the prior year. A longer time frame might be better in some situations.

Distance from an End Point

Alternatively, the theme could be distance from an end point. Table 2 illustrates this approach. Here, position is key. Where is the home state with respect to where it would like to be? Where are the biggest problems, and the biggest success stories? Collectively, or overall, where is the home state when measured against a set of goals? Of course, this approach works best when the parties to the policy discussion can agree on the goals!

The data in these illustrative tables readily lend themselves to graphical presentations. Bar charts are an obvious possibility. Other renditions may be better. Again, anything that can be done to enhance the impact of the data should be explored.

Modeling

Having a wealth of data at hand presents opportunities to do simulation, or "what if," modeling of possible futures based on alternative assumptions and relationships. For example, one might simulate what would happen to tuition over a five-year period if state appropriations and enrollment were flat, institutional costs increased by an annual rate, and tuition revenue had to make up the entire revenue shortfall. Follow-on issues readily come to mind such as the amount of need-based student aid required in order to keep up with those tuition increases.

Conclusion

As shown above, an extensive array of data can be developed with at least putative relationships to the hoped-for integration of policies on tuition, student financial aid, and state appropriations. That extensive array could easily become a bewildering array, so much so that it has little effect. Therefore, it is appropriate to distinguish between building a comprehensive data set and deciding which indicators to use, and in what way, in the policy debate. At any given time, some indicators may have traction while others may not. Some may work well on their own, while others may be more effective in supportive or confirmative roles. Combining the indicators in interesting ways may increase the odds that they will make a difference in generating the appropriate policy debate as well as in shaping and monitoring effective policies.

Table 1
Indicators of the Burden on Students for Financing Higher Education
Change Over Time

Indicator	Base Year	Most Recent Year	Percent Change
Tuition as Percent of Regional Average	89.0	90.0	1.1
Tuition as Percent of Personal Disposable Income	13.0	13.5	3.8
Tuition as Percent of Median Family Income	6.0	6.2	3.3
Percent Increase in Tuition, Constant Dollars	6.3	6.5	3.2
Average Age Earning Bachelor's Degree	24.6	24.9	1.2
Percent of Undergraduates Attending Part-Time	58.5	60.3	3.1
Average Loan Amount	2200	2300	4.5
Lowest Tuition as Share of Poorest Family Income	28.1	29.1	3.6
Tuition as Share of Core Revenue	38.0	39.5	3.9

Table 2
Indicators of Student Access to Higher Education
Goals Versus Actual

Indicator	Goal	Most Recent Actual	Actual as Percent of Goal
State Participation Rate (SPR), 18-24 Year Olds	0.70	0.66	0.94
SPR, 18-24 Year Olds, Percent of National Average	1.00	0.93	0.93
State Share of All Pell Grant Funding	0.0160	0.0152	0.95
State Aid per Aided Student as Percent of Tuition	0.25	0.20	0.80
Number of Need-Based State Grant Recipients	1,000	865	0.87
Low Income Participation Rate	0.40	0.32	0.80
Participation Rate for Minority Group A	0.60	0.46	0.77
Participation Rate for Minority Group B	0.40	0.39	0.98
County Participation Rates, Lowest/Highest	0.66	0.58	0.88

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Information Sources for Answering Key Financing and Financial Aid Policy Questions: Current Practice and Future Possibilities

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Three trends are driving the growing concern with higher education finance among the states: shrinking state revenues in the context of expanding demands for state expenditures; the desire to sustain and increase prosperity in an increasingly competitive global economy; and growing postsecondary enrollments as individuals recognize the links between higher education and economic opportunity.

In this context every state faces two closely related fundamental questions. What higher education finance policies will provide meaningful educational and economic opportunity for citizens? What policies will optimize the "human capital" of the state's future workforce? Many other considerations are relevant to higher education financing policy, but these questions are the bottom line. Although economic opportunity often leads talented people to move from state to state, policies that enable citizens to realize fully their potential ultimately also will work to increase the capacity and economic competitiveness of each state's workforce.

This short paper considers what states need to know in order to design and implement such policies and how they might benefit by analyzing data from national and state sources. It is based on our accumulated experience working with higher education data systems and visits to five states—Connecticut, Florida, Missouri, Arizona, and Oregon—that are participating in the *Changing Direction* project. Each of these states is reexamining its own policies in the context of these goals. The work also benefits from related papers written for this project by Dennis P. Jones, Kenneth P. Mortimer, and Paul Brinkman.[1]

The paper focuses on the data needed to address five sets of interrelated questions:

- What is the capacity of the state to generate resources for higher education and other public services?
- What is the institutional capacity to provide high-quality postsecondary education to the state's citizens? Are institutions adequately supported for what they do? Do they use their resources effectively?
- What is the capacity of the state's citizens to contribute to the cost of successful participation in postsecondary education?
- What results, in terms of student participation and success is the state achieving? How are these results affected by the financial capacity of the state, institutions, and students and their families?
- What is the payoff to the state from its investment in higher education?

State Financial Capacity

Funding for higher education is provided by a number of sources: federal, state, and local governments and taxing districts; student tuition and fees; institutional investments; and corporate and individual gifts and sponsorships. Nationally, the two largest sources of revenue are state appropriations and student tuition and fees. For public institutions, and especially for community colleges and universities without substantial research funding, state and local appropriations tend to be the single largest sources of revenue. Moreover, in states with higher levels of tuition and fees, state-funded student assistance often receives substantial appropriations. Consequently, the capacity of the state's economy and tax structure to generate revenues for postsecondary education is a critically important issue.

Sources of Data. Of the five critical data questions, it generally is easiest to find information on state financial capacity. Each state has developed its own databases to develop revenue projections for budgeting purposes. In addition, the federal Census Bureau provides annual data on state and local government tax revenues and expenditures by type (including higher education), as well as five-year surveys of tax effort and expenditures of individual county and municipal governments. The federal Bureau of Economic Analysis expands upon Census Bureau data by providing information on changes in per capita income over time. Also, a number of national organizations provide comparative data for all of the states. These include:

- The Federation of Tax Administrators: state and local revenue data and analysis of tax burden (www.taxadmin.org).
- National Association of State Budget Officers (NASBO): historical and current data on state revenues and expenditures (www.nasbo.org).
- The Tax Policy Center: providing analysis and facts about tax policy (www.taxpolicycenter.org).

From these and other sources easily found through these Web sites, one can learn a great deal about actual state and local revenue collections and the details of state tax policies and revenue sources.

The federal Department of the Treasury's Office of Economic Policy is also an important data resource in assessing state fiscal capacity (www.ustreas.gov/offices/economic-policy/). Under current law the department is required to estimate the "total taxable resources" of the states or their ability to raise revenues from their own resources. Research Paper No. 9702, "An Improved Method for Estimating the Total Taxable Resources of the States," by Michael Compson and John Navratil contains both a methodological discussion and comparative data on state tax capacity (the paper can be found at www.ustreas.gov/offices/economic-policy/resources/wpnewm.pdf).

This information, combined with information from other sources on total state revenues from taxation can be used to compare state tax revenues to state tax capacity.

The size of a state's future tax revenues, of course, is determined by economic trends in the state and the policies through which they raise revenues by taxing different components of the state's economy. While projecting future revenues is not an exact science, every state engages in such projections, and two recent

studies have projected future revenues and expenditures for all states. Hal Hovey prepared the first of these in 1999 for the National Center for Public Policy and Higher Education (www.highereducation.org/reports/hovey/hovey.shtml). An update of the Hovey study was prepared in 2002 by Donald Boyd of the Rockefeller Institute for the National Center for Higher Education Managements Systems (NCHEMS). Both studies project that nearly every state is likely to experience a shortfall between revenues and expenditure for current services in the coming eight years. The more recent Boyd study projects an average national shortfall of 3.4 percent by 2010. The Boyd study can be obtained from the NCHEMS or the State Higher Education Executive Officers (SHEEO). Several of the factors that tend to generate shortfalls are discussed in the following section.

Assessing State Financial Capacity

Data on state tax capacity are widely available. The difficult challenges in this area are not in finding data but in developing and implementing policies that generate the revenues required for vital public services and avoid excessive taxation. Clearly, the key terms in the previous sentence ("required for vital public services" and "avoid excessive taxation") are matters of judgment and political debate.

States differ in every relevant dimension of these issues, including their wealth, their tax policies, their current tax effort, the rate of growth in demand for public services, and the adequacy of current funding of public services. Yet a few issues have emerged in many places:

- States that depend largely or significantly on sales taxes are finding that revenues do not keep pace with economic growth because consumers now are spending more for untaxed services than for the goods normally taxed.
- States that tax capital gains have been particularly affected by a dramatic decrease in equity values over the past three years.
- Some revenue streams added in the 1990s, such as lottery revenues, seem to have reached a plateau while the services they support continue to grow.
- The elderly population and the very young are growing faster than wage earners in their middle years; hence, the need for services is growing faster than the economy in some states.
- A number of tax reductions or limitations were enacted during the 1990s. Some of these reduced a state's taxing authority more than projected or failed to anticipate the effects of changing economic conditions.

The fiscal crisis currently facing virtually every state underscores the need to consider carefully the capacity of the states to support public services. It also underscores the importance of sound revenue projections; of prudent policies for establishing, using, and replenishing reserve funds; and of tax policies that reduce the volatility and increase the stability of revenue streams.

Ultimately, tax policy and tax policy changes will emerge as elected officials and the people consider public needs and the adequacy, fairness, and effectiveness of existing revenue laws. These sources of data may be helpful as states seek to establish an effective and appropriate balance of state appropriations for

higher education institutions, student assistance, and tuition policy.

Institutional Capacity

States have large investments in higher education, including direct aid to public institutions, indirect support of public and private institutions through student assistance, and, at times, direct state grants to private institutions. States must consider both the size of these investments and their utilization to support the goals of high and successful participation (state tuition and student assistance policies will be considered in the next major section). Some of the specific data questions related to institutional capacity include:

- What institutional resources exist in the state (public, private nonprofit, private for-profit)? Are their facilities and their programs adequate to meet student demand?
- What students—by level of income and preparation—are served by what institutional resources?
- What students come from other states or go to other states?
- What core resources (state subsidies, endowment, income, etc.) and what restricted resources (external research support, other grants, and contracts) exist for institutions?
- What do external resources add to state-provided resources?
- How efficiently are core resources utilized?
- By what measures can institutions in the state be judged adequately, amply, or inadequately funded?
- Are existing institutions and missions the correct size for fulfilling their mission in a cost-effective manner?
- What have been the trends in constant dollar support per FTE student and in FTE faculty per FTE student?
- What measures are used for assessing future enrollment demand and the institutional resources required to support it?

Sources of Data. Effective responses to these questions will require almost any state to accumulate and analyze a substantial amount of data and information about conditions within the state. States also will want to know how their investments and capacity compare to other states. A first step in assembling helpful data is to use existing federal or other national data, which enables comparisons among states and in some cases, within states. Important national sources of state comparative data include:

- Bureau of Economic Analysis: government expenditures and gross investment, including higher education (www.bea.gov).
- National Association of State Budget Officers State Expenditure reports: capital-inclusive higher education outlays as a percentage of total expenditures (www.nasbo.org).
- The National Postsecondary Student Aid Study (NPSAS) (http://nces.ed.gov/surveys/npsas) and The Baccalaureate and Beyond Longitudinal Study's student migration data (not institutional specific) (http://nces.ed.gov/surveys/b&b).

- SHEEO's Survey of State Finance of Higher Education (upcoming, formerly the Halstead Survey).
- Grapevine, Illinois State University: data on state tax support for higher education (www.coe.ilstu.edu/grapevine).

Institutional data from national sources that can be aggregated to the state level and used for within state analysis include:

- Integrated Postsecondary Education Data System (IPEDS): data on enrollments, institutional assets and endowments, federal contract dollars, faculty compensation, and revenues and expenditures by type, including tax receipts and capital outlays (http://nces.ed.gov/ipeds).
- National Science Foundation: historical data on federal grants (www.nsf.gov).
- American Association of University Professors (AAUP): surveys of faculty compensation (www.aaup.org/surveys/02z/z02rep.htm).

Also, the Southern Regional Education Board (SREB) has for many years maintained a detailed study of financing at the institutional level in the SREB states (more information on the SREB data system and a specific example of its higher education finance data can be found by following the links to educational data, the data library and higher education finance at www.sreb.org).

These data sources (especially IPEDS) provide a significant amount of information that can be used to analyze the capacity and functioning of state institutional resources. In fact, few if any state higher education agencies find the time to exploit fully their potential. Yet they do not provide all the information that states would need to address some of the important questions outlined earlier.

Many states have separate state-level data collection activities or, from time to time, access institutional data systems to obtain additional information concerning institutional capacity and resources. Yet it is unusual for states to have easy access to all the data needed to examine in-depth issues related to institutional capacity and the use of institutional resources. Such questions include:

- What are the size, age, condition, and utilization of facilities on campuses?
- What is the cost among campuses for instruction by discipline and level of instruction?
- What are faculty workloads among campuses by discipline and level of instruction?
- What are institutional overheads, and what are their implications for cost-effectiveness and potential enrollment expansion?
- What are the trends in institutional allocations for various functions and categories of expenditures?

Both current data and trend data are pertinent for such questions, and because it often is difficult to assure data comparability at this level of detail, both should usually be employed in analysis.

Currently, we have not been able to complete a comprehensive survey of the availability of such data in all states, but our experience suggests that it is spotty at best. States that utilize budget formulas often have access to data on enrollments by discipline and level of instruction

and expenditures by various categories, but they seem generally not to use data for analysis beyond the budgeting process. States without either budget formulas or established cost and workload studies are not likely to have easy access to data on institutional capacity and functioning, except at the gross institutional level.

Examples exist, however, of databases that can address institutional capacity issues in greater depth. Although it does not utilize formula budgeting for universities, Illinois has developed and sustained for many years statewide studies of facilities, instructional costs, and workloads for both public universities and community colleges. Another resource is the National Study of Institutional Costs and Productivity, administered annually by the University of Delaware (www.udel.edu/IR/cost/). This study, like the Illinois cost studies, is based on the academic resource requirements model developed by NCHEMS in the late 1960s and early 1970s. Participation in the Delaware Study generally is voluntary at the institutional level, and comparative data are not publicly available. Tennessee, however, has recently moved toward requiring participation in the Delaware Study by state universities.

States with statewide academic program review, including the project states of Missouri, Oregon, Connecticut, and Arizona—can generate information about institutional capacity from the review process. While program review data can be used to test the viability of a given program and to monitor statewide program duplication, program reviews seldom answer questions systematically about total capacity at the state level or relative cost-effectiveness at the institutional level.

Assessing Institutional Capacity

States face two fundamental questions in budgeting for institutional subsidies: What is needed in total to meet state priorities? What is a fair and equitable allocation among institutions? Generally states tend to rely primarily on one of two imperfect strategies: to build the budget from the previous year's base, assuming the general adequacy and fairness of the past allocation; or to design a formula that will rationally and automatically determine resource needs and a fair allocation of resources among institutions (the limits and imperfections of each strategy are topics for another paper).

Generally, states seem infrequently to use external data and their own data to weigh the availability, adequacy, and flexibility of institutional resources. When external data are used, the most common approach is to use IPEDS data to compare expenditures or IPEDS and AAUP data to examine faculty compensation within a selected group of peer institutions. Some states also have used the former Halstead Finance Survey to compare relative financing per student at the state level.

The data required to address more detailed questions about instructional costs by level and discipline, workloads, facilities, etc., usually can be assembled at the institutional level, but they seem rarely to be available at the state level. While questions at this level of detail should normally be the primary concern of institutional managers, rather than of state policymakers, they are pertinent when states assess institutional capacity to serve more students and the adequacy of existing funding levels to meet demand and assure quality.

It is undesirable and impractical for a state to be perpetually engaged in detailed financial analysis as part of the budget process. A degree of predictability and stability is required for effective operations. But the current situation of higher education in the United States—scarce resources and substantially increased demands for higher levels of participation and quality—warrants more detailed analysis of institutional capacity and financial performance. Policymakers need to make informed judgments about the adequacy or inadequacy of state subsidies in order to meet state goals and to identify opportunities for increasing productivity.

More sophisticated analysis of institutional subsidies is an important part of the task of determining the appropriations, tuition, and financial aid policies that will best serve the goal of meeting the demand for quality higher education and expanding successful participation in a state.

Student and Family Financial Capacity

While the cost of attending college varies widely by state and by type of institution, all students or their families must pay something for them to participate in higher education. In addition to any loss of income from potential employment, they must pay tuition, fees, and living expenses while enrolled in college. A state seeking to provide educational opportunity and to strengthen the capacity of its workforce needs to ask whether the cost of higher education borne by students and families is keeping it from reaching these goals.

To examine this global question and to evaluate its policies the state needs to know the answers to questions such as these:

- What is the income profile of students and families in the state?
- What are the trends in prices for colleges and universities, and how do these prices vary by institutional sector?
- How has student price response differed by level of income and financial need?
- What is the net cost for students for different levels of instruction and programs?
- How does state, federal, and institutional student assistance affect the net cost for students at different income levels?
- How is student assistance distributed, and in what forms and through what mechanisms?
- What amounts of student aid is distributed based on need versus other factors?
- What is the distribution of "unmet" student need?
- What is the extent and type of student borrowing from all sources?
- What is the long-term debt level being accrued by students?
- What trends exist in student employment behavior?
- To what extent are tuition tax credits being used in the state, and which students are benefiting?
- What have been the behavioral responses of students in the state to increases in price and student financial assistance?

Sources of Data. Various federal and national data are available to help address questions within this policy domain:

- The U.S. Census Bureau provides detailed information about family incomes in the states and within regions, by zip code, of the states (www.census.gov).
- NCHEMS has developed a Web site that provides easy access to data on income and other population characteristics within states as well as statewide data on affordability from *Measuring Up 2002* (www.higheredinfo.org).
- The Integrated Postsecondary Education Data System (IPEDS) provides trend data on institutional pricing (http://nces.ed.gov/ipeds).
- The National Postsecondary Student Aid Study (NPSAS) provides sample data on student income, financial aid packaging, net student cost, and total indebtedness (http://nces.ed.gov/surveys/npsas).
- The National Center for Education Statistic's Baccalaureate and Beyond study provides sample data on student borrowing and postsecondary outcomes and choices (http://nces.ed.gov/surveys/b&b).
- The National Clearinghouse provides enrollment information for up to 95 percent of student borrowers, including enrollment patterns that cross state lines (www.nslc.org).
- The annual survey of the National Association for State Scholarship and Grant Aid Programs (NASSGAP) provides information on state funding for student aid programs, including need and non-need based aid, graduate and undergraduate student aid, and student grants and loans (www.nassgap.org).
- The College Board produces annual reports of institutional pricing, enrollment, tuition, reported family income, and financial aid (www.collegeboard.com).
- The state of Washington's Higher Education Coordinating Board annual tuition survey provides data on average public higher tuition and fees by sector (www.hecb.wa.gov/policy/Reports/TFNational01-02.pdf).

In addition to these national sources of data, many states have used their own financial aid records and other state surveys to address policy questions related to student financial capacity. The states we visited provide good examples of potential approaches for using state and institutional financial aid databases.

In Arizona, for example, staff members at Arizona State University have created a database of 21,000 student financial aid records to model the effects of various changes in tuition and the adjustments in financial aid needed to minimize adverse effects on student enrollment.

Connecticut collects statewide aggregate and sample data in an attempt to better understand patterns in student costs and contributions. For example, the state Department of Higher Education collects data to examine the longitudinal trends in the relative share of direct educational costs borne by students.

Florida's Office of Student Financial Assistance collects student unit record data by financial aid program, including need-based data for independent colleges and universities. Until recently, these data were not combined into one

database. Their recent merger and associated software upgrades provide the ability to make considerably more information available. The new system will permit a consolidated overview of the numbers of recipients by financial aid program and institution, the distribution of financial aid by demographic characteristics, and the total amount of state aid disbursed by category.

Missouri collects a variety of data related to student need, financial assistance, and net cost. Information about institutional financial aid awards for federal, institutional, and state sources permits aggregate profiles of the number of undergraduate and graduate students receiving aid by federal, state, and institutional categories.

The Oregon Student Assistance Commission works with individual institutions to match Free Application for Federal Student Aid (FAFSA) and financial aid data with academic history files. The result is a profile of students who have applied for need-based state assistance through the Oregon Opportunity Grant, which could prove quite valuable in assessing the relative impact of student assistance programs on academic progress.

Assessing Student and Family Financial Capacity

Despite the effective use of state-level data on federal and state student assistance programs, few states have an effective means of monitoring the contributions of institutional student assistance programs in meeting the financial needs of low- and moderate-income students. Most national data on institutional student assistance aggregate tuition waivers, and graduate and undergraduate student assistance, as well as combining merit awards with need-based student aid.

States seeking to achieve more successful participation need to take very seriously both the capabilities and limitations of students and their families to bear the price of higher education. Over the past two decades, higher education prices have risen faster than growth in average per capita income. Also during this period, incomes have grown slower than average for families of low and moderate incomes and faster than average for families at the high end of the scale. These trends exacerbate the economic challenges facing low- and moderate-income students who need to participate in postsecondary programs. They also suggest that families with higher incomes may be able to contribute more to the cost of postsecondary education.

Some states that traditionally have kept tuition and fees relatively low in public institutions are finding it difficult to sustain such a policy in the context of growing demand for higher education and other public services. To the extent that families in such states are prosperous, shifting more of the burden to students and their families without impairing successful participation may be necessary, feasible, and equitable. But every state has students who are prepared to be successful in college and need financial assistance to enroll.[2] Sound public policy should monitor the participation of such students and work to assure that financial obstacles are not limiting their opportunities to realize their potential to be fully productive citizens. In an environment of constrained resources, sound policy also needs to monitor subsidies to those who can pay higher tuition and fees with little hardship.

States typically have reasonably good access to specific data on the income and participation experience of students who apply for need-based student assistance but very little information on the financial resources of those who do not. While it may be undesirable or infeasible to require the submission of income information from such students, states could use Census data, welfare data, transportation department's geographic analyses, and postal zip code data to estimate the participation rates of students from different income groups.

Another potentially significant source of financial assistance for middle-income students is the availability of federal tax credits. While the Internal Revenue Service has not yet released much information on the utilization of these tax credits, the IRS eventually should be able to provide the states aggregate information on the utilization of federal tax credits to finance college costs.

Results of State Policies

Data on inputs, such as family and state resources and institutional expenditures, are meaningful and useful only when connected to outcomes. In keeping with the objectives identified at the outset of this paper, the outcomes that matter are the extent to which the state is providing meaningful educational opportunities for its citizens and strengthening the capabilities of its workforce.

In this context states need to data to address questions such as these:

- What is the current participation rate in the state?
- What is the projected demand for enrollment for both traditional and non-traditional students?
- What are enrollment numbers and trends for different institutional types, academic programs, and levels of instruction?
- At what rates are enrolled students completing degree and certificate programs?
- What is the quality of student learning outcomes?

As they seek to improve performance and obtain better results, states will need data to understand the factors that determine existing conditions and might be addressed to improve performance. Such questions include:

- What are the participation rates for different levels of wealth and preparation, school types, and racial and ethnic groups?
- What are the interactions between preparation, financial need, and culture in influencing participation and success in higher education?
- Where in the state's K-12 system are there important needs to improve preparation and opportunities to learn from successful practice?
- Where in the state's higher education system are there important needs to improve student completion rates and opportunities to learn from successful practice?
- What is the relationship between income, race, and attitude toward debt?

- How do different individuals approach the issue of their personal investment in education?

Sources of Data. The following national and federal sources of data will be useful in addressing these questions:

- IPEDS: enrollment data on undergraduate students, graduate students, and first-time attendees; graduation rate data on completers (http://nces.ed.gov/ipeds).
- Current Population Survey: college participation rates by race and income (www.bls.census.gov/cps/cpsmain.htm).
- Bureau of Economic Analysis: annual estimates of income, earnings, and employment for states, counties, and metropolitan areas (www.bea.gov).
- U.S. Census Bureau: household and family income distributions (www.census.gov).
- NCHEMS Web site: data on income and other population characteristics within states as well as statewide data on preparation and completion from *Measuring Up 2002* (www.higheredinfo.org).
- National Educational Longitudinal Survey: sample data on postsecondary academic preparation, including course-taking patterns (http://nces.ed.gov/surveys/nels88).
- Web-based portals (such as www.censusScope.org): state- and county-specific population and income data. This data also can be found on the NCHEMS site.
- The College Board: institutional enrollment profiles and trends (www.collegeboard.com/).

In addition to these national sources of information, most states supplement IPEDS with their own information concerning student participation and higher education outcomes. The most sophisticated state systems have a means of tracking individual students into postsecondary education from secondary schools, throughout their career in postsecondary education (even if they attend several institutions), and beyond, into the workforce.

These unit record systems are the key vehicle for analyzing the initial participation rates of students according to demographic characteristics as well as their mobility among the institutions. Unit record databases also provide the ability to track former students and to tie their performance in postsecondary institutions to subsequent employment or education within that state. Florida and Missouri make frequent use of postsecondary student unit record data to not only answer questions about student experiences within higher education but also to link these databases with other available databases, including K-12 unit record databases and unemployment databases. Florida is currently assembling a K-20 data warehouse that will enable sophisticated longitudinal analyses across education systems.

Most states have access to student income data for need-based financial aid recipients taken from FAFSA or from estimates from demographic data collected at the time students take the ACT or SAT test for college admission. Missing, however, are income data for all students and for those students, typically community college

students, who do not take standardized admission tests.

Missouri prepares an annual report back to every secondary school that profiles the retention rate and grade point average of their graduates who have entered public higher education. Arizona prepares a report of success of community college students that have transferred to the state university system. Because of its unavailability, neither of these reports was able to use family income as a descriptive or inferential factor.

Connecticut routinely reviews community college participation rates and conducts surveys of high school graduates. These data can provide the basis for monitoring the effects of tuition policy and changes in high school graduation requirements.

Several other states also have collected data on student learning, and this activity is growing. In South Dakota, for example, all public university students must obtain an acceptable score on the American College Testing Program's CAAP test in order to graduate. For some time a number of states, including Missouri, have monitored student performance on professional examinations in fields such as nursing, engineering, and teaching. And a few states are now working to develop more systematic measurements of student learning using a portfolio of general and professional examinations.

Many states also report use of postsecondary graduate surveys to make judgments about institutional performance. At the other end of the continuum, Oregon routinely surveys secondary graduates one year after graduation as a means of learning more about the transition from high school to work or postsecondary education. This report provides a one-shot view of the attendance patterns of secondary graduates by demographic and attitudinal factors. Connecticut also routinely reviews community college participation rates and conducts surveys of high school graduates. These data can provide the basis for monitoring student choice of institution as well as the effects of tuition policy and changes in high school graduation requirements.

Assessing the Results of State Policies

Without question, good data and systematic policies are needed to assess the effectiveness of a state's efforts to improve participation and success in higher education. Although there is room for improvement, the development and elaboration of state level accountability systems has advanced rapidly in recent years. In general, however, states have made more progress on developing measures of outcomes and less progress in using data to improve performance. Improving performance will depend on thoughtful efforts to use information at every level of the system, from those shaping state policy to those who teach and counsel students.

Most existing systems were originally designed at the institutional level to count or verify student enrollments and periodically to produce demographic profiles. In order to move beyond the institutional level and beyond these basic tasks, common definitions, and data collection methodologies, issues of privacy and confidentiality, and ownership and control of the data will all need attention. Coordinated analysis beyond institutional-level analysis especially will be necessary to address complex issues such as

student transfers, occupational placement, and inter-state migration.

Ideally, an integrated system across all levels of education will meet those analytical needs. In reality, multiple systems currently exist for K-12 systems, postsecondary education, and labor systems. None of these systems is adequate alone, and because they are poorly aligned, they are frequently not an effective option for tracking results within the state nor across state lines.

The Contributions of Higher Education

Ultimately, the contributions of higher education must be documented to justify both the states' investments in higher education and the effort required to develop and fine-tune state financing policies. It is therefore more important than ever for each state to assess and clearly articulate the role and value of its colleges and universities in the state's economic, political, and social health.

In order to accomplish this task, states should ask the following questions:

- What are the costs of various higher education programs and services?
- What are the economic and social benefits of these programs and services to the states?

Sources of data. Limited data, mostly in aggregate form, are available from federal and national sources to address the above questions. For example, data provided by the U.S. Census Bureau, College Board, and other agencies and organizations document the positive correlation between level of education and personal income. National surveys of college graduates, such as the National Center for Education Statistics' Baccalaureate and Beyond study, provide useful data on postgraduate employment, salary, residency, and selected consumer activity.

The National Center for Public Policy and Higher Education has graded the states on the benefits each receives from postsecondary education drawing largely from the Census, the National Adult Literacy Survey (National Center for Education Statistics), and the Bureau of Economic Analysis of the Department of Commerce. The most recent full report of this analysis is in *Measuring Up 2002* (www.highereducation.org). The National Center's analysis is based on the estimated benefits of participation in higher education, based largely on correlations between participation and higher incomes, charitable giving, and civic participation, including voting behavior.

Over the years many states, institutions, and associations also have sought to understand and estimate the contributions of higher education. Recently, the American Association of Community College Trustees, for example, worked with a consulting firm of economists to develop a model for estimating the economic contributions of particular community colleges (more information on this at www.ccbenefits.com/). Also, private public policy associations such as the Washington Research Council in the state of Washington, have occasionally conducted such studies (its recent "The Economic Value of Higher Education" can be found at www.researchcouncil.org/Reports/1999/EconomicValueof HigherEducation/EconomicValueofHigherEducation.htm).

While varied in purpose and scope, efforts to assess the economic impact of higher education also were found in each of the five case study states. In Arizona, reports were completed by

individual universities, while in Connecticut studies were done by the individual higher education sectors. An Oregon report was generated by the Department of Community Colleges and Workforce Development, while a study was completed in Missouri by that state's Association of Private Career Schools. Missouri and Florida also track the employment outcomes of individuals participating in Workforce Investment Act programs. Another extensive study of these issues was recently completed by a group of economists in Illinois (www.ibhe.state.il.us/Reports%20&%20Studies/PDF/higherEdV2.pdf).

Assessing the Contributions of Higher Education

Economic impact studies are helpful as a public policy tool in highlighting the extent of the impact of universities on local and statewide economies, including direct and indirect employment, purchasing, housing, tax revenues, etc. Studies and reports could include a broader consideration of impact, including the universities' cultural, entertainment, and service functions. Specific profiles of graduates and their level of community involvement, charitable giving, and other activity also could be added.

While data on graduates and program completers is helpful, data on dropouts and noncompleters might also be useful to assess the differences in job type and earned income between the two groups. This could be used as a strategy to encourage and motivate students to complete programs as well as a mechanism for focusing state support on programs and initiatives that promote academic persistence and job placement.

However, data on economic impact also is mostly drawn from those former students who remain in a state following graduation. States appear to have significantly less capacity to measure either the potential costs of graduate migration to other states or the beneficial economic impact of college educated individuals who move into the state. Data of this type could be extremely useful to inform discussion of policies designed to stem the loss of talent, as well as the differential tuition charged to in-state and out-of-state students.

Conclusion

We conclude where we began, by recalling that the "bottom line" of this exercise is the extent to which state policies provide meaningful educational and economic opportunities for their citizens and optimize the state's human capital.

When resources are scarce and the demands on them are growing, states especially need a clear framework for thinking through the relevant issues, and they need good data on resources, needs, and the performance of educational systems. States need to gauge their own capacity to provide resources, the capacity of institutions to provide services of the scale and quality needed, and the capacity of students and their families to participate in higher education and to contribute resources to the system. They also need to consider the cost effectiveness of educational programs and the effectiveness, efficiency, and fairness of the state's strategies for supporting higher education.

Much of the data required can be found from existing national, state, and institutional sources, but there are gaps in both the data available and in the utilization of data to create

better information for decision-making. Improving the utilization of available resources and filling important data gaps should help states reach their policy goals.

Endnotes

1. Dennis P. Jones, "Financing in Sync: Aligning Fiscal Policy with State Objectives;" Kenneth P. Mortimer, "The Governance Context for State Policies on Appropriations, Tuition and Financial Aid;" Paul Brinkman, "Informing the Integration of Tuition, Student Financial Aid, and State Appropriations Policies," *Policies in Sync: Appropriations, Tuition, and Financial Aid for Higher Education* (Boulder, CO: Western Interstate Commission for Higher Education, 2003).
2. National survey data indicate that only about 75 percent of economically poor students in the top quartile of academic achievement tend to attend college right after high school, while virtually every high-achieving student from a more prosperous family enrolls in college immediately. It would be useful to develop a means of using state data to determine the size of this gap in each state, to monitor it systematically, and to close it.

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